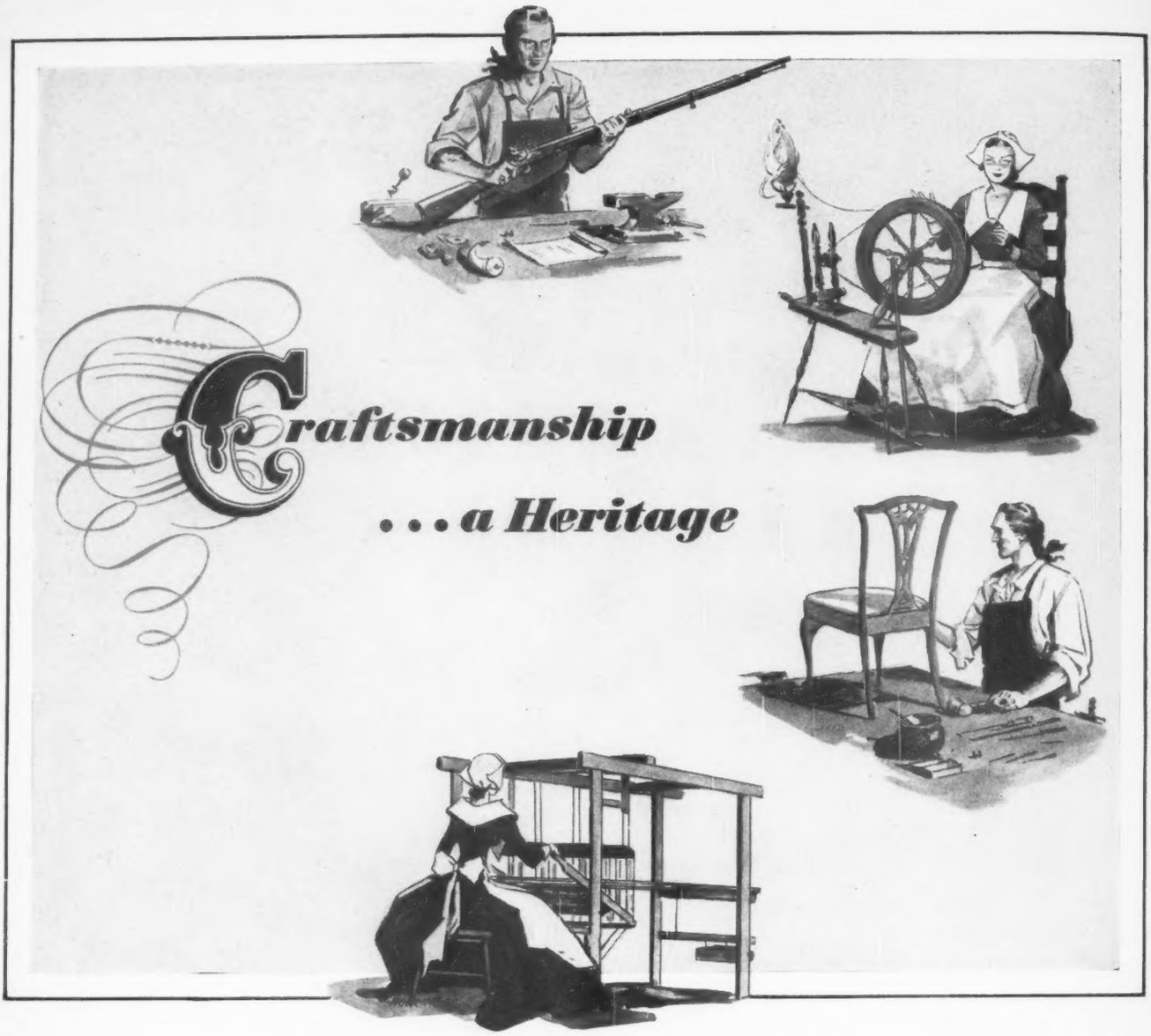
THE INTERNATIONAL CRAFTSMEN'S CONVENTION

Niagara Falls, Ontario, Canada
July 24-26, 1944

PRINTING EQUIPMENT
Engineer

PRINTING EQUIPMENT

• A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.



In the early days of homespun and handicraft the human element predominated in most trades, particularly in printing. The result was that the keenest application of human faculties, the combined force of the spirit and the flesh, became a heritage.

No other craft today enjoys this heritage so much as printing. Invention has simplified and accelerated every printing operation, but the fact remains that skilled man power is still the spark which ignites all printing achievement. Mechanics will never displace the human heart nor dethrone the artistry of the mind.

A successful printing job unites thought, talent, and labor into a concrete and useful whole. The styling of type, the beauty of presswork, knowledge of color, ink, and paper—all these are aimed at the perfection of successive steps—vitalized by a craftsmanship which adds excellence to excellence until the bindery adds the crowning touch of completeness. On one hand, the huge American budget for printing has been a challenge; on the other, the superb facilities of the printing craft are meeting these needs. The gap has been bridged by the foresight of the printer, plus his devotion to a craftsmanship handed down through generations.

NOW AVAILABLE. Complete and comprehensive Guide Book of Essential Wartime Printing and Lithography. 64 pages (8½" x 11") of detailed description and information on every government public relations problem which can be aided by printed promotion. We shall be glad to obtain a copy for you . . . or write direct to Graphic Arts Victory Committee, 17 East 42nd St., New York City.

HARRIS · SEYBOLD · POTTER · COMPANY

HARRIS DIVISION
CLEVELAND 5, OHIO
MANUFACTURERS OF OFFSET LITHOGRAPHIC • LETTERPRESS AND GRAVURE PRINTING MACHINERY • • • • •

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MANUFACTURERS OF PAPER CUTTERS AND TRIMMERS • KNIFE GRINDERS • DIE PRESSES • WRIGHT DRILLS • MORRISON STITCHERS

C&G
ROUTER, Jigsaw
AND TYPEHIGH MACHINE
C&G
Router AND
TYPEHIGH MACHINE

The COMPLETE Composing Room

Mortises, key changes, type corrections, cutting tint blocks and planing cuts to type height were at one time considered "outside" jobs. **Now** the printer is expected to have the facilities for this kind of work in **his own plant.**

To be without such equipment means uncontrolled charges, and expensive delays while plates are being sent outside.

The C&G Router, Jigsaw and Typehigh Machine and the C&G Router and Typehigh Machine each have a place in modern, economical production. Brief descriptions follow:

C & G Router, Jigsaw and Typ
The Machine You Will Use Ever

The C&G Router, Jigsaw and Typehigh Machine will mortise, route or cut to type height wood mounted or type high stereotype plates. It will make small or large inside mortises for changing key numbers or line corrections. It can be used extensively for cutting tint blocks to irregular shapes.

The C&G Router, Jigsaw and Typehigh Machine gives the full working capacity of two separate machines without sacrifice of floor space. The router and jigsaw are instantly available, making their use practical without

delay
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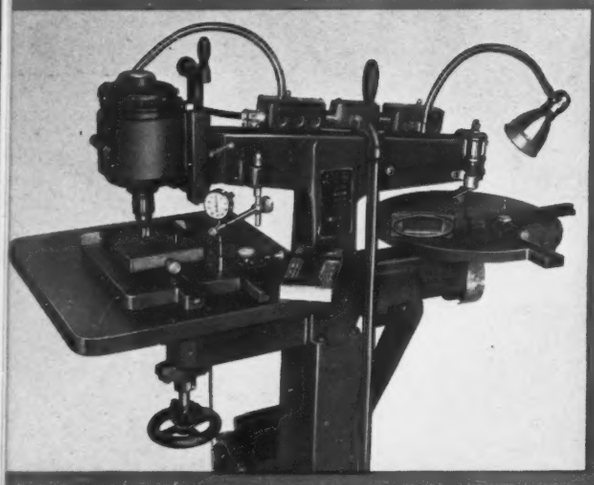
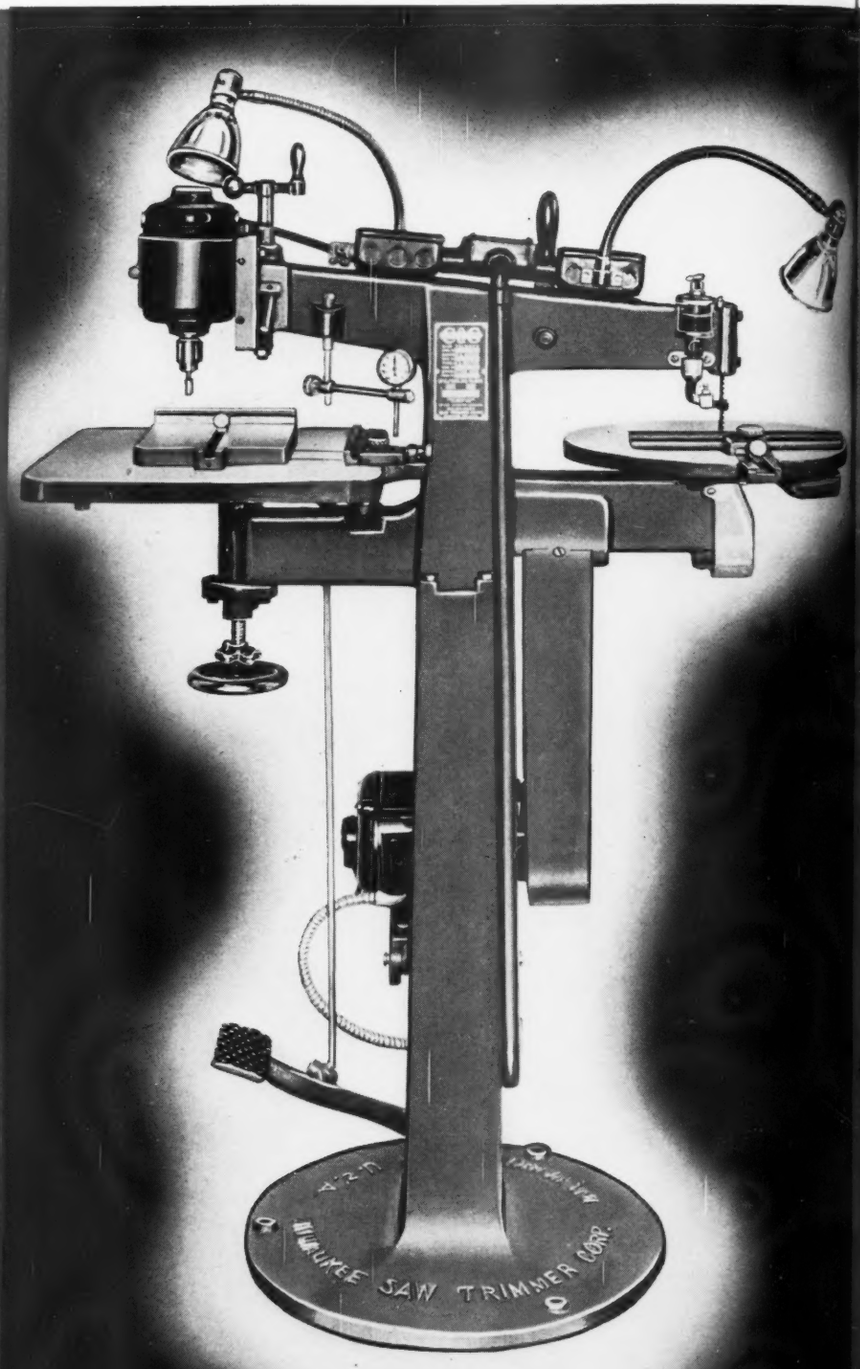


A direct drive motor operates the router and type high mechanism. Work is visible for every operation. Direction and depth of cuts is easily and definitely controlled.

A circular table facilitates direction of jigsaw cut. Sturdy construction insures accurate operation. Jigsaw is belt driven from motor at the base of the machine. Improved crankshaft operates quietly.



...d Typehigh Machine
...e Every Day—Profitably

delay in adjusting or setting—and without handicapping other operations.

The two machines are individually powered by separate motors. Mechanically simple, they are easy to operate, and practically trouble free.

There are innumerable uses in the modern plant for the C&G Router, Jigsaw and Typehigh Machine that mean definite time savings. Busy plants will find that it will pay for itself in a short time.

C&G Router and Typehigh Machine

The C&G Router and Typehigh Machine is recommended for use in smaller plants where the need for the jigsaw is infrequent.

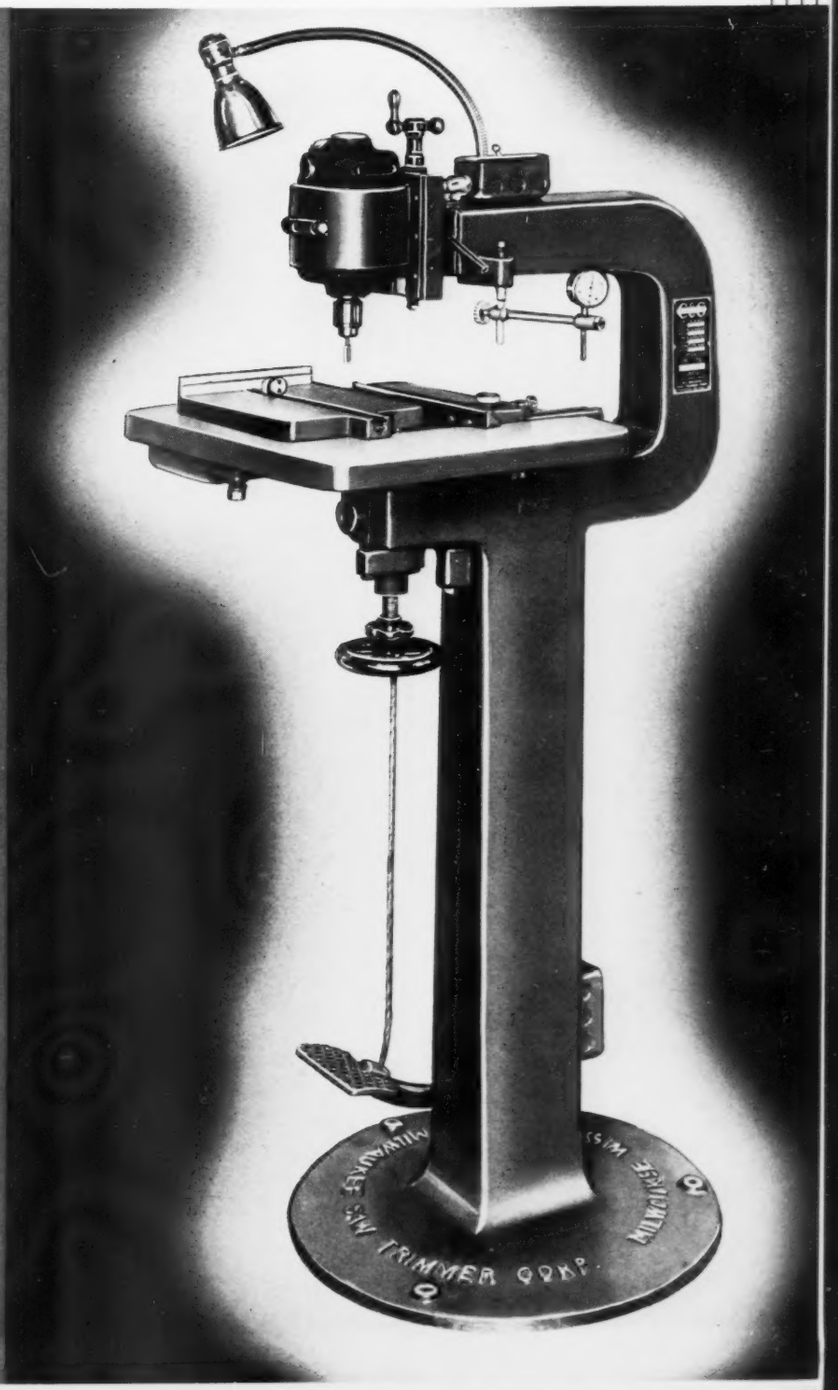
The operation of the C&G Router and Typehigh Machine is the same as for the C&G Router and Typehigh end of the combination machine. In larger plants it affords added capacity, or can be used as auxiliary equipment to save time, without the investment required for the larger machine. Micrometer type high gauge, straight-line guide, and powerful ½ H. P. Universal motor with sealed ball bearings greased for life go together to make this a 100% precision tool.

SPECIFICATIONS

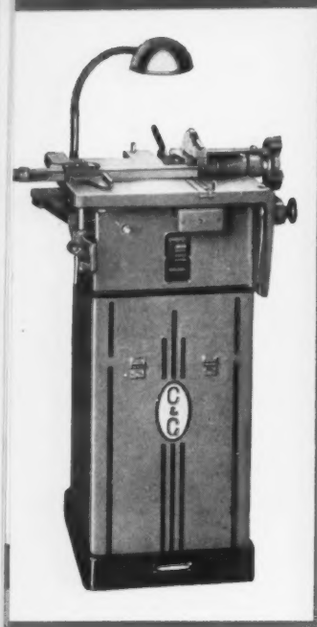
Height	50 in.
Length	39 in.
Width	23 in.
Size of Tables:	
Jigsaw	17 x 15 in.
Router	18 x 16 in.
Height of Table from floor:	
Jigsaw	39 in.
Router (normal position)	39 in.
Drill or Route to center of plate, size	22 in.
Jigsaw to center of plate, size	21 in.
Motors: Router, ½ H. P. Universal 110 or 220 volt. Ballbearing (sealed bearings). Speed, 15,000 r.p.m. No belt required. Jigsaw, ¼ H. P., 115 or 230 volt. A. C. or D. C. V belt drive.	
Weight, net	290 lbs.
Weight, Shipping—Domestic	385 lbs.
Weight, Shipping—Export	580 lbs.
Drawer: Swinging partitioned drawer below table to accommodate all cutting tools.	

SPECIFICATIONS

Height	51 in.
Length	25 in.
Width	18 in.
Size of Table	18 x 16 in.
Height of Table from floor (normal position)	40 in.
Motor: ½ H. P. Universal 110 or 220 volt. Ballbearing (sealed bearings). Speed 15,000 r.p.m. No belt required.	
Route or Drill to center of plate, size	34 in.
Weight, net	260 lbs.
Weight, Shipping—Domestic	320 lbs.
Weight, Shipping—Export	385 lbs.



Other C&G COMPOSING ROOM EQUIPMENT



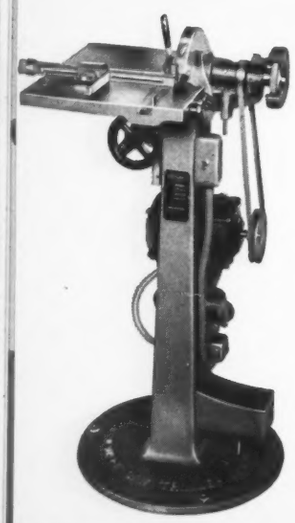
C&G No. 3-A Saw Trimmer

The C&G No. 3-A Saw Trimmer is a high-speed production machine designed for accurate and efficient operation. It has many exclusive C&G features that have resulted in its ready acceptance among leading production executives.

The C&G No. 3-A Saw Trimmer is easy and safe to use. Guards cover all moving parts except for the essential working exposures. Material being sawed is placed and clamped in front of the gauge frame, eliminating buckling and jumping of material and endangering the operator.

The C&G No. 3-A Saw Trimmer was designed by its users. In sawing, the operator moves ONLY the gauge and the material—NOT the heavy table top. The change from sawing and trimming material to sawing, or undercutting cuts is almost instantaneous, and requires no tedious screw adjustment of an elevating mechanism.

The C&G No. 3-A Saw Trimmer is a heavy duty machine. It affords the utmost in accuracy. Where wear is present, provisions have been made for ready adjustment. Part replacement is a rarity. Upkeep cost is negligible. C&G No. 3-A Saw Trimmers will solve your sawing problem economically, efficiently, and safely.



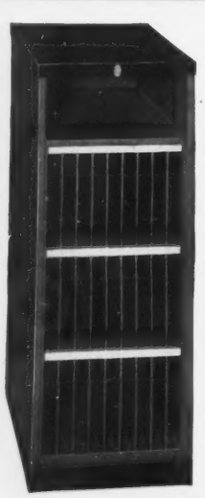
C&G No. 2 Saw Trimmer

For accuracy and speedy sawing, trimming and mitering, the C&G No. 2 Saw Trimmer has proved its efficiency in many composing rooms. Easy sliding gauge, positive material vise, and adjustable point gauge, are important features, in addition to safety of operator at all times. It accommodates all regular sawing and trimming within its range. The table top is readily adjustable to any position for undercutting and outside mortising. Flexibility is increased with special attachments.

C&G Sawliner

The C&G Sawliner has a wide range with its large table and 72-pica Gauge. It is priced so that every shop can now afford a saw and to permit the purchase of several as auxiliary saws in the larger commercial plants and for use in ad alleys in the larger newspaper offices.

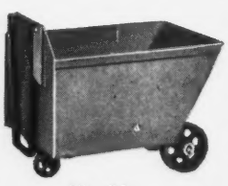
Engraving plants large and small can use the Sawliner to advantage. Special zinc blade can be furnished. The Sawliner can be purchased or a bench machine or cabinet model, also portable with solid rubber wheels and caster. Illustration shows cabinet model.



C&G Strip Material Cabinet

Every printer can use the C&G Strip Material Cabinet to advantage, and it is ideal along side the saw trimmer. It speeds production by keeping strip material where it belongs. It is built of heavy sheet steel, and is 34" high, 24½" long and 13" wide. It holds over 2000 pounds of metal and can be used in any printing plant. The top makes a convenient work bench. The opening at the top can be used for tools, or additional strip and base material.

No. 20



No. 21

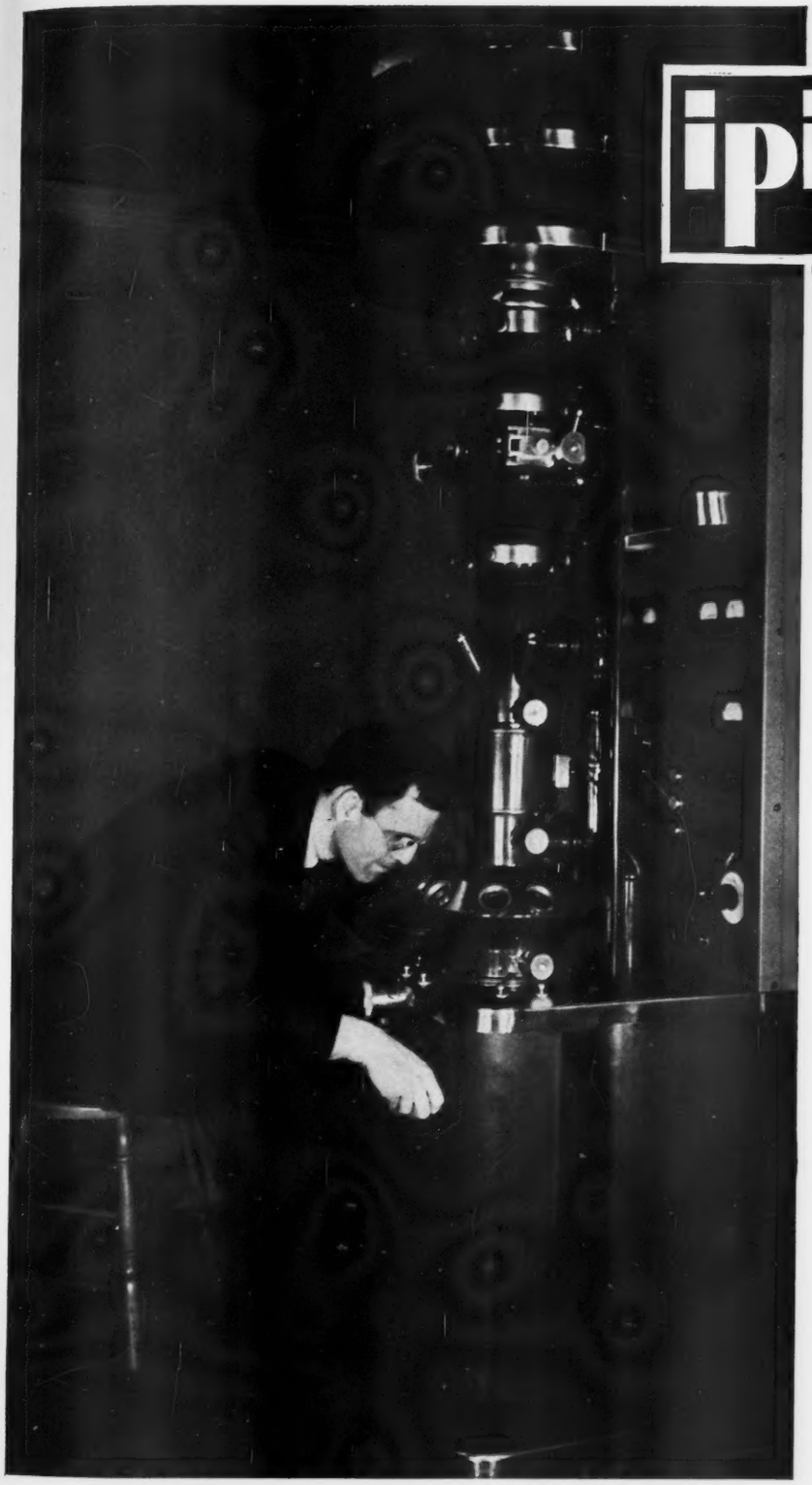
C&G Waste Receptacles

The C&G No. 20 Waste Receptacle is made of heavy sheet steel, and has a capacity of 1467 cubic inches. It is 16" high, 16" long and 11" wide. The handle swivels to a height of 26". The C&G No. 21 Waste Receptacle is made of the same material as the No. 20. The capacity is 2000 cubic inches, and it is 14" high, 19" long and 13½" wide. Back wall from which handle projects is 16" high, and the handle swivels to a height of 26". The No. 20 is regular equipment with the C&G No. 3-A Deluxe Saw Trimmer.

MILWAUKEE SAW TRIMMER CORPORATION

510-612 EAST CLYBOURN STREET • MILWAUKEE, WISCONSIN

PRINTED IN U.S.A. 375A10

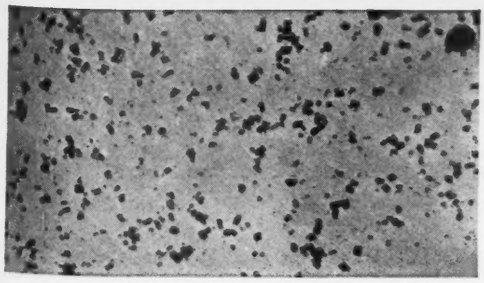


"REPORTERS" GET THE NEWS FIRST!

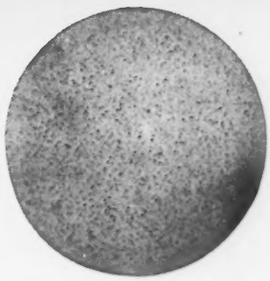
The IPI "Reporter" is an ink chemist. To help you solve your printing problems he is continually seeking new facts about printing pigments. Here you see him using IPI's electron microscope—a "super microscope" with a resolving power 50 times greater than the very best light microscopes! The electron microscope enables IPI to determine, with a degree of accuracy never before possible, the true nature of various pigments and how they react when mixed with other materials!

Printers in many fields have long recognized International Printing Ink's technical skill and experience in the manufacture of printing inks. This leadership is the direct result of continuous research and the use of such precision equipment as the electron microscope, IC Viscometer and the G. E. Recording Spectrophotometer.

Years of experience has given IPI the "know-how"... *and IPI is the only ink manufacturer to combine that "know-how" with the latest and best development and control equipment!* For the "latest news" about printing inks . . . Keep in Touch with IPI!



Iron Blue—13,000 Diameters with Electron Microscope.



1250 Diameters with Light Microscope.

Free Color Guides

A letterpress color guide, an offset color guide—each in both file size and pocket size—and a specimen book of IPI* Everyday* Inks are now available to printers and others who specify printing ink colors. Write to International Printing Ink, Empire State Building, New York 1, N. Y.

*Trade Mark

The Recording Photoelectric Spectrophotometer can analyze in about two minutes any one of several million different colors by charting its reflectance properties on a sheet of graph paper. It provides a precise method for matching and analyzing colors. It substitutes for the fallibility of the human eye, the unvarying accuracy of a photocell system. This Interchemical machine is the first recording spectrophotometer to be installed for commercial use.

This Ne
papers at
its purpo
actual pr

ipi "REPORTERS" GET THE NEWS FIRST *(continued from preceding page)*

This News Press in the IPI Research Laboratories can *really* roll. It is a high-speed unit capable of reproducing papers at a speed comparable to that of metropolitan newspapers. Of course, this press is not used commercially; its purpose is to provide a plant test for newspaper inks developed in the IPI Laboratories. Testing inks under actual pressroom conditions is an integral part of the Laboratories' work.

ipi

This Equipment is a photometric attachment to a spectrograph. It is one of the instruments which help to make possible a scientific approach to a study of color, a subject which affects vitally the whole field of chemical coatings. The spectrograph determines light reflectance properties in the ultraviolet, the visible and the infra-red regions of the spectrum. A special infra-red spectrograph is being built to broaden the scope of this instrument.

Your Complete Casting Room from HAMMOND
HAMMOND
EASYKAST
8
HAMMOND MACHINERY BUILDERS INC.
KALAMAZOO, MICHIGAN, U.S.A. SERIAL NO.
MODERN CASTING ROOMS BY HAMMOND

HAMMOND . . .
for Faster and Better Casting

THE finer design, construction and ideas embodied in the Hammond EasyKaster "8" have brought flat casting to a new level of efficiency. The exclusive features of the EasyKaster "8" offer easier, better and faster casting. Users unanimously praise the Hammond EasyKaster "8" for the vast improvement it has made in their stereotyping.

Model EK8-P EasyKaster "8" is the combination of an 800 lb. capacity melting pot with the finest automatic flat caster made. This modern combination provides the plant now without adequate melting facilities, with a continuous supply of hot metal and faster, more accurate casting. The melting pot is insulated and designed for both efficient and rapid heating. Heating up time with full pot is 45 minutes. Metal is drawn from the bottom of the pot, free from dross, through the valve control which provides sensitive and safe pouring. Valve and spout are heated by an individual burner with shut-off. For easy temperature control, the melting pot is equipped with three burners with shut-off valves. A Partlow Gas Control which maintains any desired temperature can be furnished and is highly recommended.

Model EK8 EasyKaster "8" (without melting pot) is the fastest and most accurate automatic-locking flat caster made. It is the finest obtainable for the plant now equipped with large melting furnace and will greatly improve flat casting in any such plant. Furnished with four casters, the front two swivelling and with caster locks to prevent movement of the machine during operation.

The Hammond EasyKaster "8" has the outstanding feature of being the only flat caster made with uniform clamping pressure distribution. This clamping method is as great an improvement in casting box lock-ups as the adoption of hydraulic brakes on automobiles and represents the same idea. Either locking handle locks all four clamps with a single motion. The casting beds are locked at four points which are located "in" from the sides of the beds to approximate the average width cast. Each of the four steel clamps exert "equal pull" which is obtained by four precise eccentrics working against four individual "Floating Mechanisms." The result is scientifically balanced and distributed locking pressures and users have proved that this "Floating Lock-Up" produces more accurate casts.

Without any mechanical changes the Hammond EasyKaster "8" automatically adjusts itself for either type-high or shell casting bars. For base-high, four adjusters are slid from "out" to "in" positions in as many seconds. Thus awkward and time wasting mechanical changes are entirely eliminated.

The bed on the EasyKaster "8" has a better balance and rolls with surprising ease. It is mounted on roller bearings and rolls on machined rails. These rails are fully covered, thus eliminating bumping and jerking of the rolling bed due to metal splashing on the rails. The bed size—20" x 27"—provides a larger casting capacity. Both beds have heavier ribbing and are made of nickel semi-steel.

SPECIFICATIONS

	Model EK8	Model EK8-P
Casting Size (allowing for casting bars)	20" x 27"	20" x 27"
Rolling Bed Size	22" x 35"	22" x 35"
Vertical Bed Size	22" x 28"	22" x 28"
Rolling Bed Height (loading position)	25"	25"
Pouring Height	41½"	.....
Height of Melting Pot from Floor	.....	55"
Floor Space	37" x 58"	37" x 70"
Average Melting Time for 800 lbs. Metal	.....	45 mins.
Net Weight	1200 lbs.	1400 lbs.
Shipping Weight	1300 lbs.	1600 lbs

STANDARD EQUIPMENT

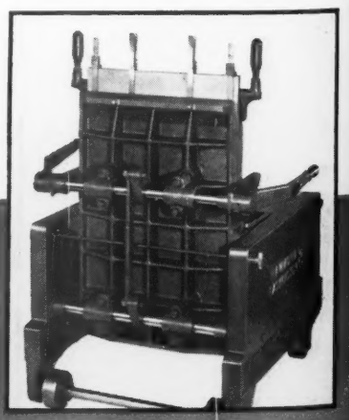
MODEL EK8-P: Complete with one set of standard thickness shell (.152" or .156") or base-high (.766") or type-high (.918") casting bars. Each set consists of one "U" casting bar hinged in the machine and two adjustable side casting bars for any width cast. Melting pot includes three burners and spout burner with individual shut off valves. Also backing sheet clamps.

MODEL EK8: Complete with same casting bars as EK8-P. Also includes four casters (two front casters swivel), rear caster locks, backing sheet clamps and metal housing covering entire locking mechanism on vertical bed.

SPECIAL EQUIPMENT: Rolling bed preheater and special thickness casting bars for either model. Stationary feet in place of four casters on EK8. Armored thermometer and Partlow Gas Control on EK8-P.

Fast pouring with the sensitive valve pouring control.

Bed rolls easily to clamping and pouring position.



Heavy ribbing . . . locking points "in" . . . plus equal pull on each clamp—means accuracy.

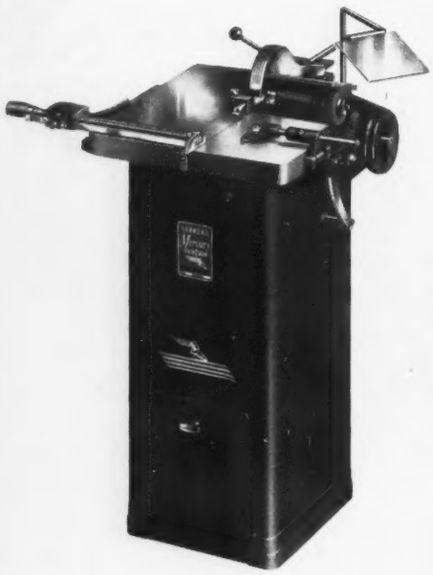
HAMMOND ... Easykaster 8

MODEL EK8-P EASYKASTER "8"
with 800 lb. capacity melting pot

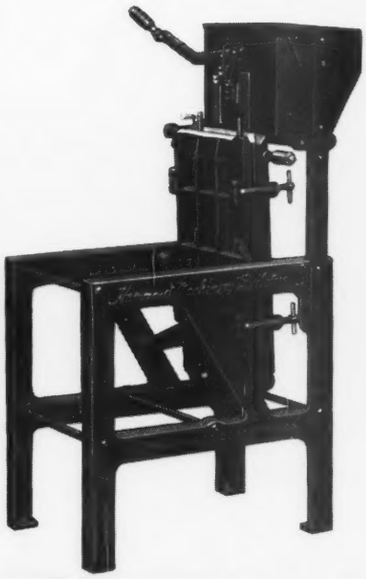
MODEL EK8 EASYKASTER "8"
without melting pot

HAMMOND Precision EQUIPMENT

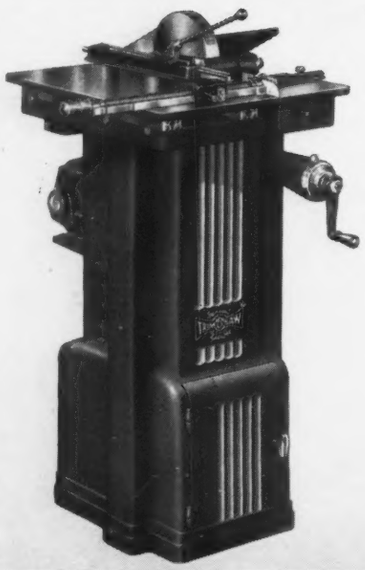
Hammond fills every sawing, routing and casting need with the widest and finest line available. The popularity of Hammond products is evidenced by the 8000 Hammond users and Hammond quality is well known. All Hammond equipment is covered with a five year guarantee against defects in materials and workmanship and carries the electric equipment manufacturers' guarantee.



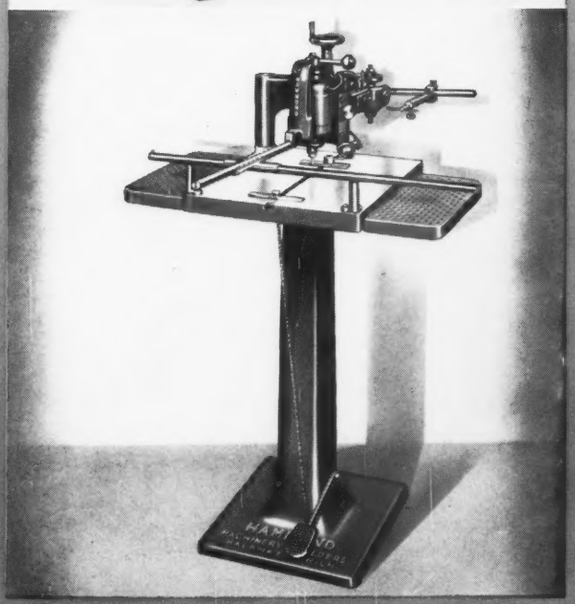
MERCURY TRIMOSAW
floor and bench models



5 and 6 cu.
EASYKASTE
with 300 lb.
melting pot



GLIDER TRIMOSAW
floor and bench models



RADIAL ROUTER
with Straight-li
Feature

Hammond Machinery Builders
INCORPORATED
KALAMAZOO, MICHIGAN, U.S.A.

F-29 16M 9-40
Printed in U. S. A.

SPHEREKOTE GLASS COATED TYMPAN COVER

SPHEREKOTE is an entirely different tympan cover. It consists of a tough oil resistant backing coated with microscopic glass spheres (50,000 to the inch) giving a firm, uniform printing surface that is slow to pick up ink and as easy to clean as a plate glass window. The spherical shape of the coated particles prevents crushing or breaking down, eliminates jagged recesses which entrap ink and paper fibres, and provides a "ball-contact" which supports the freshly printed sheet without transfer of the fresh ink. The result is less offset, sharper printing, less ink build-up and fewer clean-ups.

PRESS ROOM RECOMMENDATIONS

1. Because of its construction, SPHEREKOTE is thicker than ordinary tympan papers and may require some adjustment of the packing so that the over-all thickness is no greater than that which you are now using.

2. On presses equipped with an oil wipe, SPHEREKOTE cleans easily with a minimum of wear on the roller. Any type of roller may be used, although somewhat better results are obtained with a composition roller.

3. Because of its uniform glass bead coated surface, wiper roll settings can be heavier (¼ to ⅛") on SPHEREKOTE than on ordinary tympan covers.

4. The ease with which SPHEREKOTE cleans enables you to reduce your oil feed to a minimum.

5. While equipment and operating conditions vary widely it is generally possible, with SPHEREKOTE, to increase the solvent content and evaporation rate of the oil. A low viscosity paraffin base oil substantially reduced with some suitable solvent such as turpentine or benzol has proved very efficient.

6. The firm, smooth surface of SPHEREKOTE results in cleaner, sharper printing of type and halftones, particularly when "make-ready" operations are completed with the SPHEREKOTE cover in position.

7. Although the surface of SPHEREKOTE is much smoother than that of most tympan covers no difficulty will be encountered in holding it tightly over the backing when ordinary care is taken to tighten the cylinder clamps securely over the end of the sheet.

8. On presses not equipped with an oil wipe, SPHEREKOTE can be cleaned easily and quickly with a soft brush or cloth and solvent.

NOTE: Because of SPHEREKOTE'S unusual construction the slight amount of ink that is picked up tends to settle around the base of the glass spheres, leaving the tops of the spheres perfectly clean. Until the ink builds up to the point where it is level with the tops of these spheres, washing is not necessary.

SEE SAMPLE SHEET BELOW

Pat. Applied For. Made in U. S. A. by

MINNESOTA MINING & MFG. COMPANY

ST. PAUL 6, MINNESOTA

MINNESOTA MINING & MFG. CO.
3M
SPHEREKOTE
ST. PAUL, MINN.

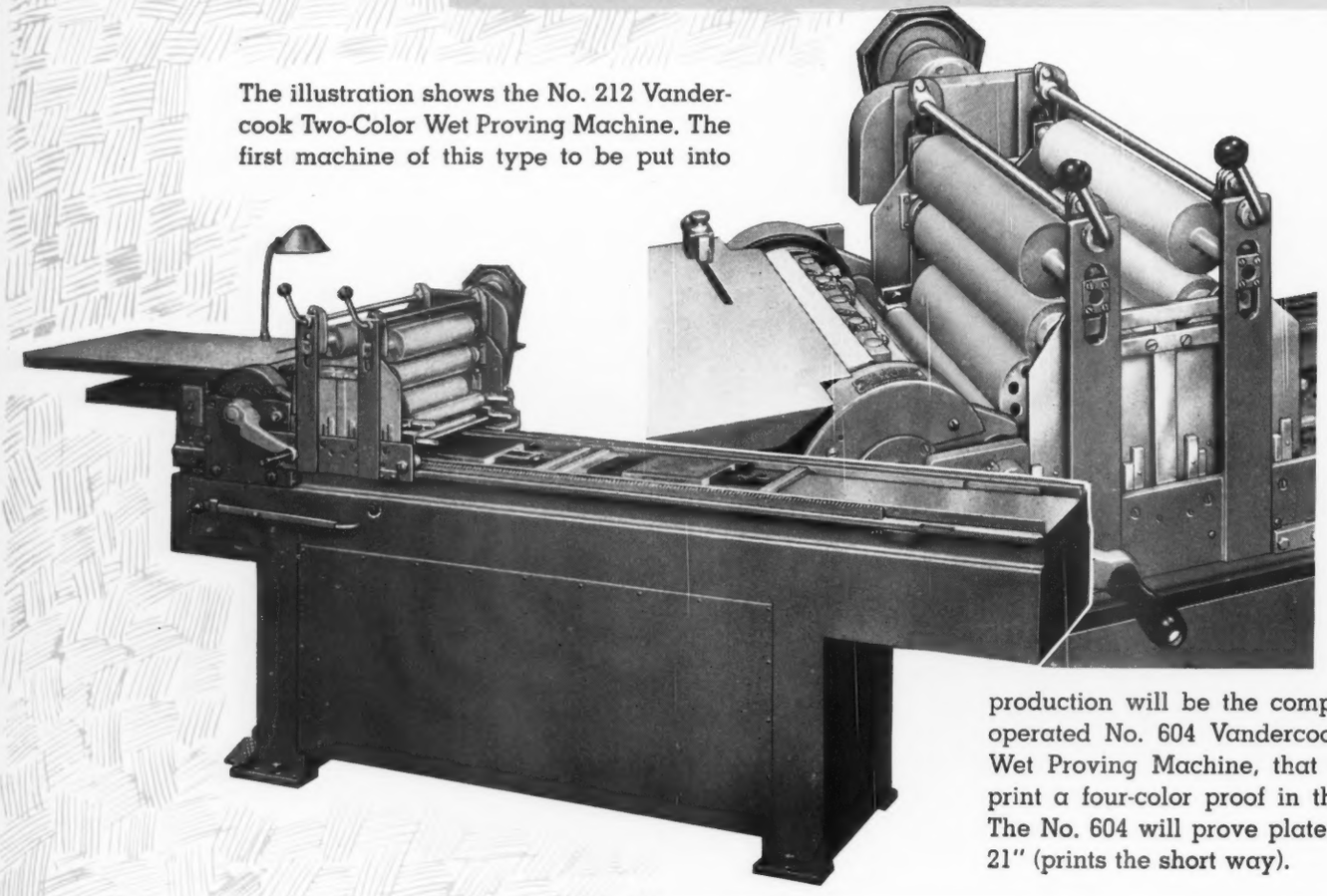
VANDERCOOK
PROOF PRESSES
BLOCK LEVELLERS
GAUGES

VANDERCOOK & SONS

Main Office: 900 North Kilpatrick Avenue, Chicago 51, Illinois

No. 212 Vandercook Wet Proving Machine

The illustration shows the No. 212 Vandercook Two-Color Wet Proving Machine. The first machine of this type to be put into

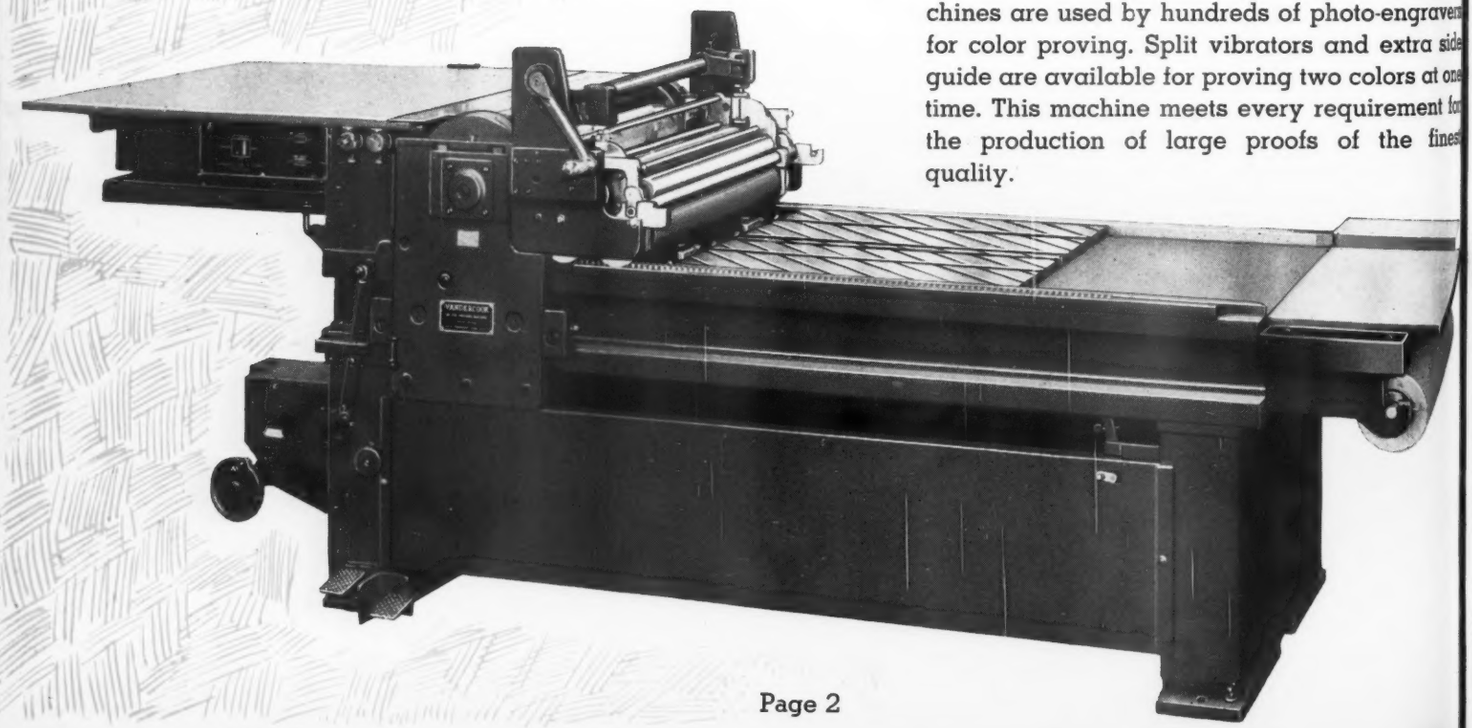


production will be the completely powe operated No. 604 Vandercook Four-Colo Wet Proving Machine, that will ink an print a four-color proof in three seconds The No. 604 will prove plates up to 25" 21" (prints the short way).

No. 232P Vandercook Power Proving Machine

FORM SIZE	SHEET SIZ
31½" x 28"	32" x 30

The No. 232P Vandercook Power Proving Ma chines are used by hundreds of photo-engraver for color proving. Split vibrators and extra side guide are available for proving two colors at on time. This machine meets every requirement fo the production of large proofs of the fines quality.

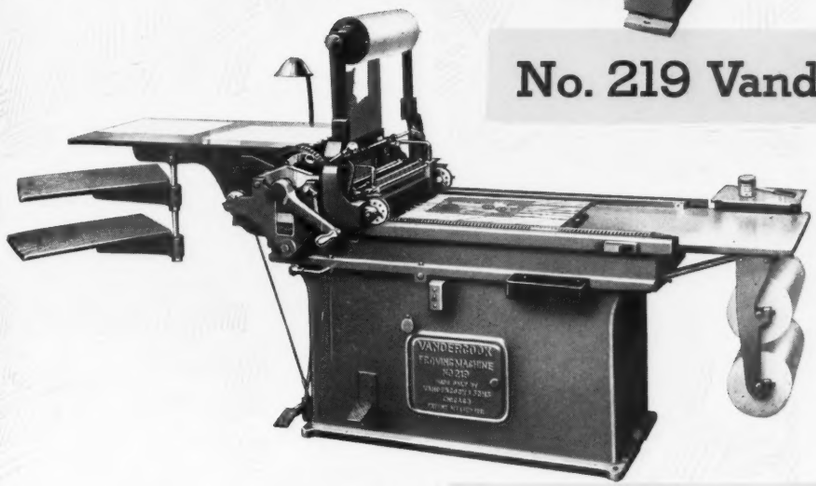


No. 223P Vandercook Power Proving Machine

FORM SIZE 22½″ x 28″ | **SHEET SIZE** 23¼″ x 30″

The No. 223P Vandercook Power Proving Machine is the same as the No. 232P except that it has 8¾″ less between bearers. Split vibrators and extra side guide are available for proving two colors at one time.

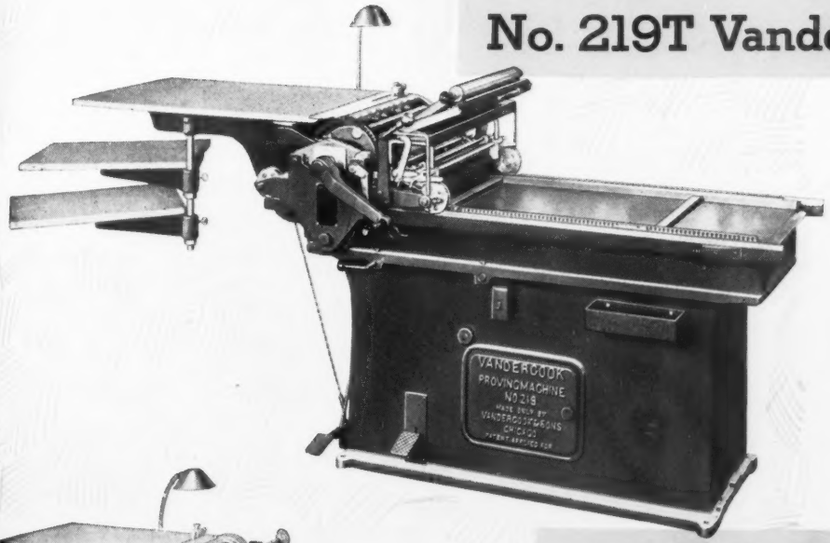
No. 219 Vandercook Proving Machine



FORM SIZE 18″ x 24″ | **SHEET SIZE** 18¾″ x 26″

The No. 219 Vandercook Proving Machine is the world's most popular hand-driven Proving Machine for black and white and color proofs of the highest quality. It has power ink distribution, changeable inking units and micrometer sheet guides. Photo-engravers, electrotypers, printers and typesetters have used this model for many years.

No. 219T Vandercook Proving Machine



FORM SIZE 18″ x 24″ | **SHEET SIZE** 18¾″ x 26″

The No. 219T Vandercook Proving Machine for Transparent Impressions is similar to the No. 219 except that it has a special impression cylinder to accommodate an offset blanket and it is equipped with a device for feeding cellophane sheets. This model produces sharp opaque impressions of type and halftones printed on both sides of transparent material. These transparencies are used as positives in making offset plates and they are used for making gravure cylinders. Also used for regular proofs.

No. 4 Vandercook Proving Machine

FORM SIZE 14″ x 18″ | **SHEET SIZE** 14¾″ x 20″

The No. 4 Vandercook Proving Machine has power ink distribution, changeable inking units and micrometer guides. It gives rigid, accurate impression and hairline register. It is right for high grade proving within its size.

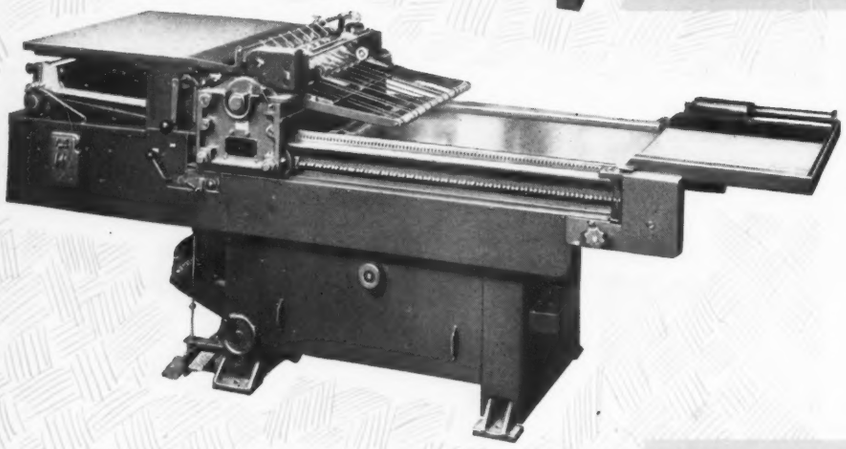
No. 4T Vandercook Proving Machine

FORM SIZE
14″ x 18″

SHEET SIZE
14¾″ x 20

The No. 4T Vandercook Proving Machine is similar to the No. 219T except that it is smaller. It is the proper model for producing transparencies within its size. May also be used for regular proofs.

No. 325A and No. 325G Vandercook Power Proof Presses



FORM SIZE
24″ x 24½″

SHEET SIZE
24¾″ x 27

The No. 325A Vandercook Power Proof Press is especially equipped for newspapers. It will produce 1000 high grade proofs per hour of newspaper pages locked in stereotype chases without printing the type high chase. The No. 325G does not have the newspaper equipment. This model has adjustable end sheet guides which cannot be used on the No. 325A as they would hit the type high chases. Automatic sheet delivery and ink fountain are standard equipment.

No. 325A and No. 325G Vandercook Hand Proof Presses

FORM SIZE
24″ x 24½″

SHEET SIZE
24¾″ x 27

Due to full ball bearing impression cylinder, No. 325G Vandercook Hand Proof Press is remarkably easy to operate on large forms. These presses are similar to the power driven models and they may be equipped with automatic sheet deliveries and ink fountains.

No. 320G Vandercook Hand Proof Press

FORM SIZE
19″ x 24½″

SHEET SIZE
19¾″ x 27

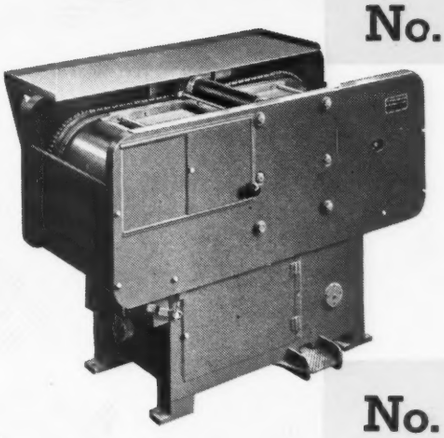
The No. 320G Vandercook Hand Proof Press is the same as the No. 325G except that it has 5″ less between bearers. This model is in wide use in commercial printing plants where high quality work is essential. Color forms may be registered perfectly for plating or for the presses. Illustration shows press equipped with automatic delivery and fountain (optional).

No. 317 Vandercook Hand Proof Press

FORM SIZE	SHEET SIZE
16″ x 24½″	16¾″ x 27″

The No. 317 Vandercook Hand Proof Press is the fastest hand driven proof press for high grade proofs. It will print from 15 to 25 high grade proofs per minute. Efficient automatic inking system and semi-automatic sheet delivery are standard equipment. Ink fountain is optional equipment.

No. 23 Vandercook Electric Proof Press



FORM SIZE	SHEET SIZE
14″ x 27½″	14¾″ x 30″

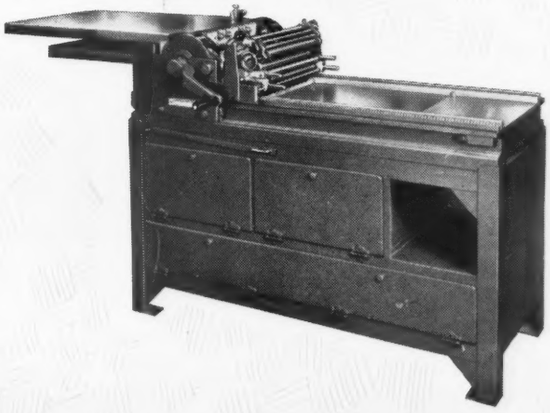
The No. 23 Vandercook Electric Proof Press will produce up to 40 good proofs a minute. It will take a tabloid newspaper page or a five full-column advertisement. The U. S. Government Printing Office uses 18 No 23 Vandercooks for straight matter and page proofs.

No. 22 Vandercook Electric Proof Press

FORM SIZE	SHEET SIZE
8″ x 25¾″	9¾″ x 29″

The No. 22 Vandercook Electric Proof Press is similar to the No. 23 except for size. It is used for proving type and slugs in galleys as they come from the machines and for ads and pages within its size. Vandercook ALLYEAR Synthetic Inking Rollers are standard equipment.

No. 3 Vandercook Proof Press



FORM SIZE	SHEET SIZE
14″ x 18″	14¾″ x 20″

The No. 3 Vandercook is the most popular small, hand driven automatic inking proof press. This machine provides every facility for fine proofs at a moderate price. The impression is rigid and accurate, the ink distribution ample and the register perfect.

No. 2 Vandercook Proof Press

FORM SIZE 23″ x 24½″ — **SHEET SI** 23¾″ x 26

The No. 2 Vandercook Proof Press is a mode hand inking proof press for forms up to f newspaper pages in stereotyping chases. En heavy bed and cylinder are designed for lo ing accuracy and machined to close limi Operation is surprisingly easy due to full b bearing construction.

No. 14 Vandercook Proof Press

FORM SIZE 16⅝″ x 23¼″ — **SHEET SI** 17⅜″ x 2

The No. 14 Vandercook Proof Press is a pre sion hand inking machine equipped with cy inder grippers. Full ball bearing constructio permits easy operation with an impression se ting of 200 lbs. per lineal inch. Cylinder gripp make possible good proofs of halftones an make this model practical for reproductio proofs.

No. 1 Vandercook Proof Press

FORM SIZE 15″ x 17¼″ — **SHEET SI** 15¾″ x 19

The No. 1 Vandercook Proof Press is similar t the No. 14 except for size. It has all the essenti features necessary to produce fine proof where hand inking is practical. It is an ide proof press for smaller printers or auxiliar equipment in larger plants.

No. 0 Vandercook Proof Press

FORM SIZE 12½″ x 21″ — **SHEET SI** 12¾″ x 2

The No. 0 Vandercook Proof Press is the late development in an inexpensive proof press. A though the rubber impression cylinder is rigidl held down to the bed bearers it operates ver easily because it is carried on six precision ba bearings. It is used extensively by the small printers and in larger plants as auxiliary equi ment.

No. 10 Vandercook Block Leveller

THE NEW No. 10 Vandercook Block Leveller is designed for permanent, precision accuracy under heavy duty use. It is definitely a NEW machine, meeting the need of those who demand plates accurate in type height. It will plane a cut 12½" x 18". This is the most practical size for the majority of printing and plate making plants.

The No. 10 Vandercook Block Leveller will take both wood and metal mounted plates. Easily read dial permits accurate cutting to predetermined block height. No calculating is necessary.

The work table, formerly started by hand and friction driven, now has an individual motor which controls the speed of rotation and tends to better and smoother operation. The automatic brake is a new feature.

The size of the cutter motor on the new No. 10 Vandercook Block Leveller has been increased from one-half to one horse power. This speeds up cutting operations and extends the life of the machine.

Hacker Gauges

No. 8 Hacker Plate Gauge
Measures Plates
up to 26" wide

No. 9 Hacker Plate Gauge
Measures Plates
up to 18" wide

No. 6 Hacker Plate Gauge
Measures Plates
up to 12" wide

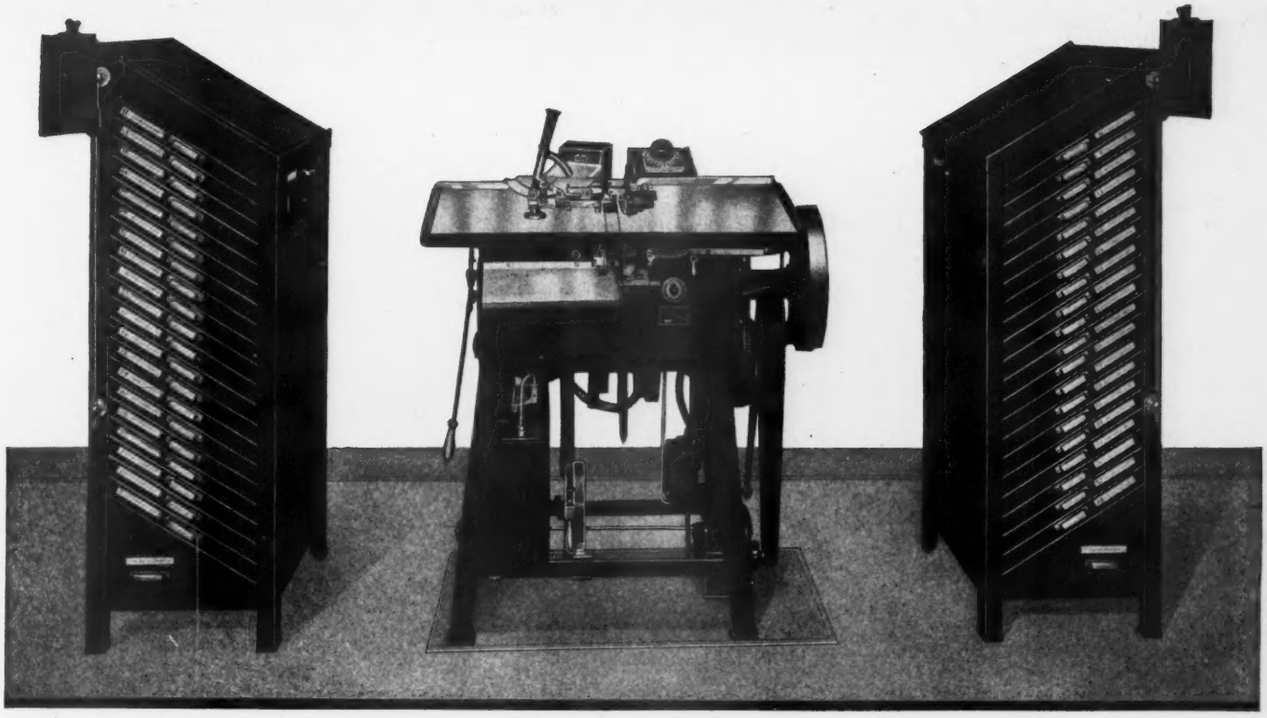
No. 3 Hacker Plate Gauge
Measures Plates
up to 6" wide

Hacker Type Gauge
Measures height of
type and slugs

Hacker Slug Gauge
Measures thickness
of slugs

All sizes and styles of printing plates both curved and flat (mounted or unmounted) can be measured on the Hacker Plate Gauges. Accurate measurements are made *under printing pressure* in minimum time. The indicator dial shows instantly how many thousandths the plate is under or over the desired thickness.

PRINTED IN U.S.A.



Greater Production *with* Limited Manpower

A Ludlow equipment on the composing room floor makes it possible for the printer to produce more job and display composition with a given complement of manpower.

For with the Ludlow, some time-consuming operations are entirely eliminated and others are materially shortened.

Some of the special values of the Ludlow method and equipment which printers are appreciating today more than ever are:

1. Reduction in setting time, because Ludlow matrices can be "gathered" instead of having to be picked up one letter at a time.
2. Elimination of time spent in looking for sorts, since with Ludlow matrices in the cases, type supply is literally unlimited.
3. Reduction in justification time, because the flat Ludlow space matrices are so easy to insert and remove, and because Ludlow-set lines do not have to be spaced "tight to lift."
4. Reduction in make-up time, due to the ease of handling and assembling slugs, instead of single type lines always subject to pi.
5. Reduction in time and care in tying-up pages, handling forms and jobs in proofing, etc.
6. Reduction in lock-up time, because slug forms, with their relatively fewer and larger units, are safer to transfer to the stone, and contain no "tight" or "loose" lines.
7. Reduction in proofreading time, because forms of sluglines, once proofread and corrected, stay correct, as there are no loose characters to drop off, or get transposed.
8. Reduction in press running time in printing slug forms, since with no separate spaces to work up, press speeds can be stepped up.

And there are other advantages contributing to efficiency in setting job and display composition, and in handling and printing it. The full story will be sent you gladly upon request.

LUDLOW TYPOGRAPH CO.

2032 Clybourn Ave.
Chicago 14, Illinois

Set in Ludlow Garamond Bold with Italic

The Story of the No. 3 Vandercook

Favorite proof press of good printers throughout the world, the No. 3 Vandercook will be essential to plant executives planning increased capacity or the replacement of obsolete equipment.

The circular illustrated, which will be sent upon request, describes the features of sturdy construction, precision, and easy operation which result in the versatility that makes the No. 3 Vandercook the first choice of many printers.

If you want to know about an automatic inking proof press that is economical for general proving, can be used for PREPRINTING, making reproduction proofs, or color process proofs, write for a copy of the No. 3 Vandercook circular. Although equipment is not available immediately, you should have the facts for consideration.

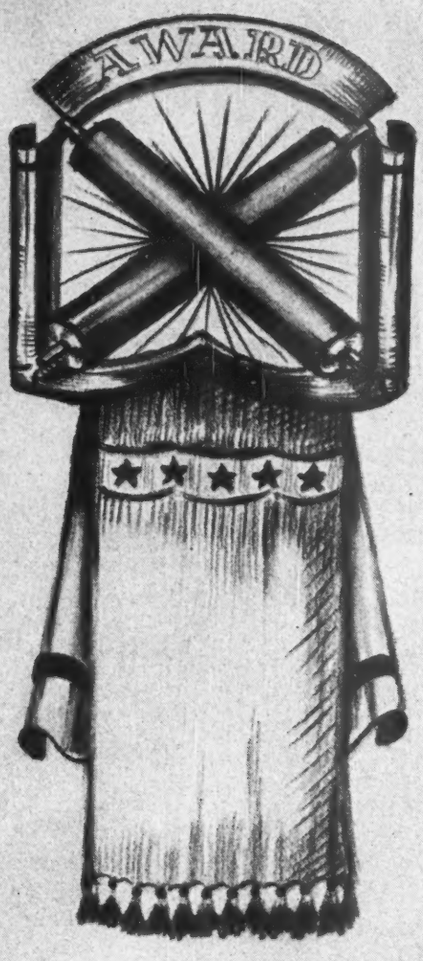
VANDERCOOK
PROOF PRESSES - BLOCK LEVELLERS
HACKER GAUGES

VANDERCOOK & SONS, 900 North Kilpatrick Ave., Chicago 51, Illinois

POSTWAR ASSURANCE

Miller Printing Machinery Co., Pittsburgh

YOUR ROLLERS SHOULD HAVE AN AWARD OF MERIT FOR EXTRA DUTY



Your rollers have an extra hard job today—and if you are going to attain maximum production, you should be sure that they are properly cared for and replaced as soon as needed.

In addition to their regular inking job, they must do EXTRA DUTY in keeping forms or plates clean of the excess powder that falls on forms or plates when war time coated papers are being used.

You can help to maintain running speed, reduce the number of washups, and get clean printing when you use the proper rollers. To be sure of a dependable standard, you should use Bingham Rollers. They have active tackiness that facilitates good inking and clean printing.

There is a Bingham representative convenient to you. Feel free to consult him on any roller problem.

SAM'L BINGHAM'S SON MFG. CO.

Roller Makers Since 1847

Manufacturers of Printers' and Litho-Offset Rollers

CHICAGO 5

Atlanta 3	Des Moines 2	Indianapolis 2	Minneapolis 15	Pittsburgh 3
Cleveland 14	Detroit 10	Kalamazoo 12	Nashville 3	St. Louis 2
Dallas 1	Houston 6	Kansas City 6	Oklahoma City 6	Springfield, O.

PRINTING EQUIPMENT *Engineer*

Volume 68 Number 4

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

MacD. SINCLAIR
Editor

ADAM HENRI REISER
Associate Editor

J. HOMER WINKLER
Contributing Editor

★

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★

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JULY, 1944

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STANDARD BOOK ON ESTIMATING for PRINTERS—By Fred W. Hoch. Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 per copy, cash with order.

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THE PRACTICE OF PRESSWORK—By Craig R. Spicher. We offer copies to our readers, at the special price of $4.00 per copy, cash with order. No printer should be without a copy (9000 copies printed.

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PHOTOGRAVURE—By H. Mills Cartwright. Covers all of photogravure's basic principles in concise and readable language. Rotogravure receives minor discussion but this is generally considered best textbook on photogravure process. Contains 202 pages, 34 illustrations, maroon cloth, size 6¼ in. by 9¼ in., $3.50 per copy, cash with order.

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PRESSROOM PROBLEMS AND ANSWERS—By Fred W. Hoch. Might be considered a miniature encyclopedia since it contains answers to 334 pressroom problems which have been answered by Mr. Hoch. Written in language of journeyman pressman. Pressmen, production men, paper and ink manufacturers, electrotypers and photoengravers will find this book of high utility when pressroom problems arise in which tendency is to lay blame on furnished materials used in pressroom production. Size, 6 in. by 9½ in., 258 pages, gold stamped blue cloth. Price, $2 per copy, cash with order.

HOW TO ADJUST WORK-UPS—By Wm. H. Lichter and Geo. F. Smalley. Booklet consists of 24 pages in which are analyzed and remedies are given for prevention and/or elimination of work-ups. Material written as result of actual plant experience. Size, 5¼ in. by 7¼ in. Price, $1 per copy, cash with order.

HANDBOOK FOR PRESSMEN—By Fred W. Hoch. Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts, $3 per copy, cash with order.

READING AS A VISUAL TASK—By Matthew Luckiesh, D.Sc. and Frank Moss, E.E. Most important research work to have been published in many years. For printers, designers, publishers, typographers and layout men. Readability of type, type faces, length of line, leading between lines, paper, ink, printing method and lighting are some of the factors involved in ease of reading. Size 5½ in. by 8⅛ in., 428 pages, bound in maroon gold stamped cloth. Price $5 per copy. Please enclose remittance with order.

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PRINTING EQUIPMENT
Engineer
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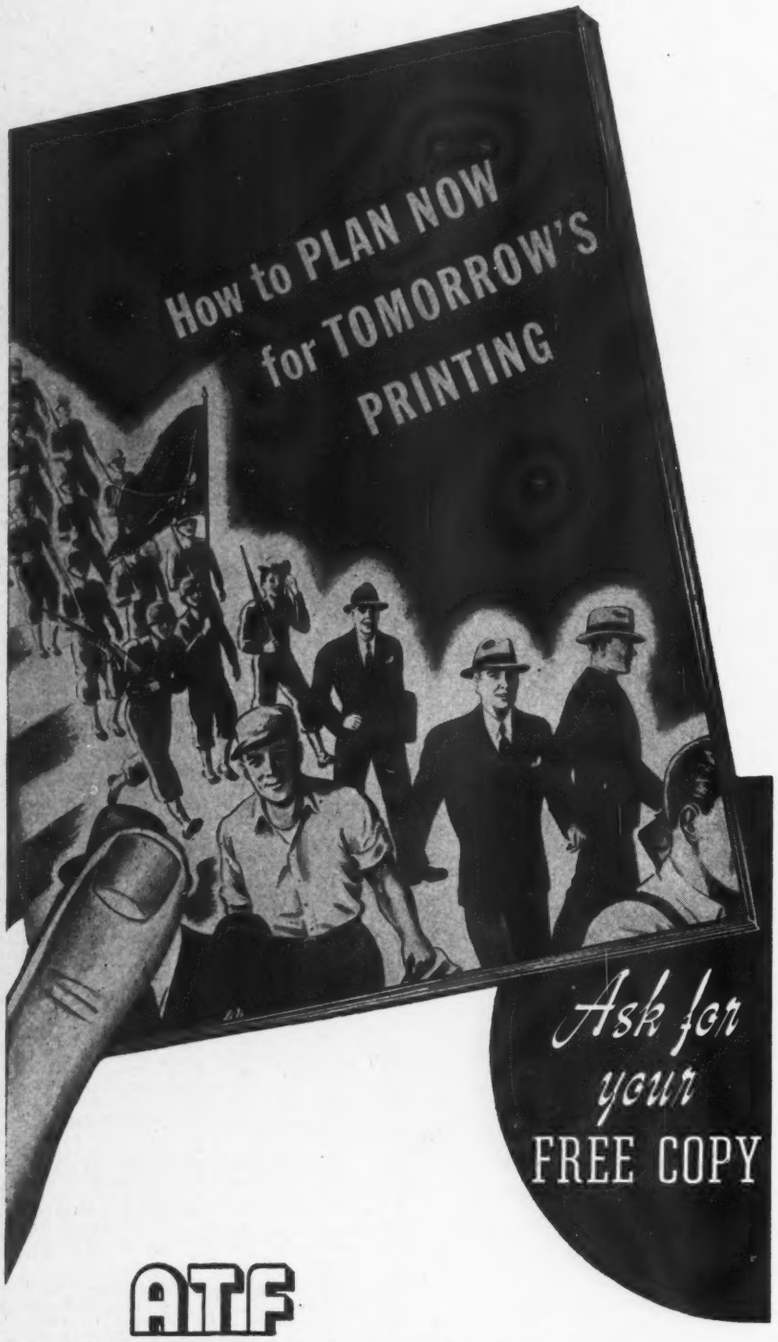


HERE'S PRACTICAL HELP *for the printer who will* PLAN

Thinking about your postwar business ... where to get it ... what it will be ... how to produce it? That's not enough. You have to PLAN NOW ... and DO SOMETHING ABOUT IT. Here's the first step ... get a copy of this free booklet. Shows why *planning now* is essential ... why delay may be costly. Gives five simple, logical steps, and detailed instructions on how to take them. Includes valuable Guide and Check Chart to Printing Buyers. Don't delay! Ask your ATF Salesman TODAY, or send to

ATF

Civilian Priority Delivery Plan

If you know now what presses you'll need after the war, have them reserved *at once* with a Certified Priority Number, and assure yourself of getting the equipment you will need at the earliest possible moment. This PLAN covers the following ATF presses:

LETTERPRESS	Style C Kelly No. 1 Kelly No. 2 Kelly Kelly Clipper Little Giant	OFFSET	Little Chief Chief Big Chief

AMERICAN TYPE FOUNDERS

200 Elmora Avenue, Elizabeth 8, New Jersey

IF YOU CHANGE PAGE WIDTHS:

If you are considering narrowing your roll size, this table of column widths, rule thicknesses and resulting page widths, may be useful to you.

Reprints of this chart will be sent gladly . . . on request to our New York office . . . as part of Wood's continuing war-time maintenance service to newspapers.

Wood Newspaper Machinery Corporation
PLAINFIELD, N. J.
Executive Offices:
501 Fifth Avenue
New York 17, N. Y.

Width of column	Thickness of column-rule	Width of Type Page — in Inches (*No. of columns per page*) 7 COLS.	8 COLS.	9 COLS.
10½ Ems Pica	2 Points	——	14.137	15.908
	3 Points	——	14.235	16.019
	4 Points	——	14.331	16.129
	5 Points	——	14.428	16.240
	5½ Points	——	14.477	16.296
	6 Points	——	14.525	16.351
11 Ems Pica	2 Points	——	14.801	16.655
	3 Points	——	14.899	16.766
	4 Points	——	14.995	16.876
	5 Points	——	15.092	16.987
	5½ Points	——	15.141	17.043
	6 Points	——	15.189	17.098
11½ Ems Pica	2 Points	13.529	15.465	17.402
	3 Points	13.612	15.563	17.513
	4 Points	13.695	15.659	17.623
	5 Points	13.778	15.756	17.734
	5½ Points	13.820	15.805	17.790
	6 Points	13.861	15.853	17.845
12 Ems Pica	2 Points	14.110	16.129	——
	3 Points	14.193	16.226	——
	4 Points	14.276	16.325	——
	5 Points	14.361	16.419	——
	5½ Points	14.400	16.469	——
	6 Points	14.443	16.517	——
12½ Ems Pica	2 Points	14.691	16.793	——
	3 Points	14.773	16.890	——
	4 Points	14.857	16.987	——
	5 Points	14.940	17.084	——
	5½ Points	14.981	17.133	——
	6 Points	15.024	17.181	——

Wood NEWSPAPER MACHINERY

Table of Decimal Equivalents:

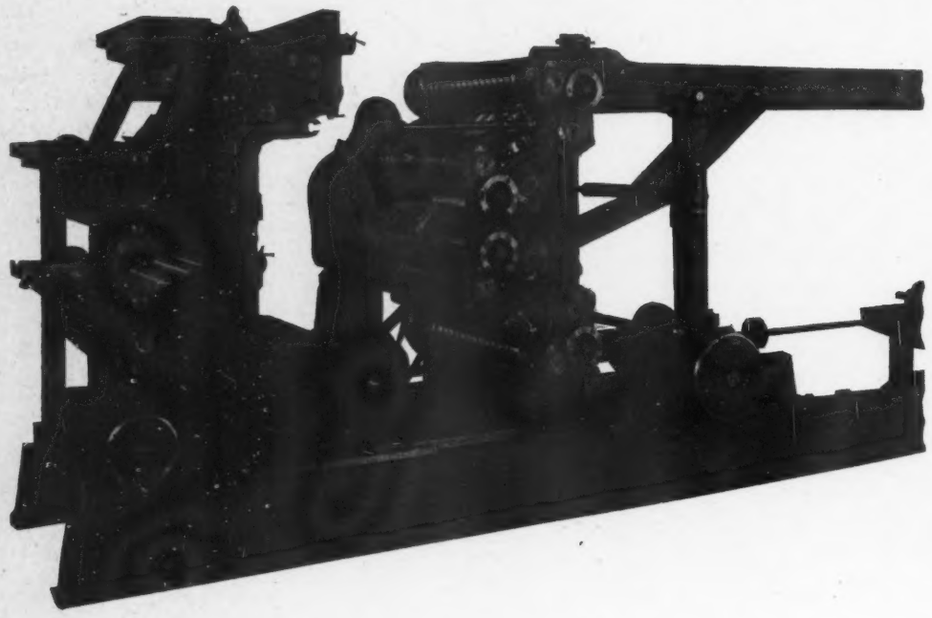
Type High	.918
One Ems Pica	.166044
10½ Ems	1.743
11 Ems	1.826
11½ Ems	1.909
12 Ems	1.992
12½ Ems	2.075
13 Ems	2.158

1 Point	.013837
2 Points	.027674
3 Points	.04150
4 Points	.05535
5 Points	.06918
5½ Points	.0761
6 Points	.08302
7 Points	.09686
8 Points	.11069
9 Points	.1245
10 Points	.13836
11 Points	.1522
12 Points	.166044

★ PLAN NOW *to install*

THIS EQUIPMENT WHEN AVAILABLE

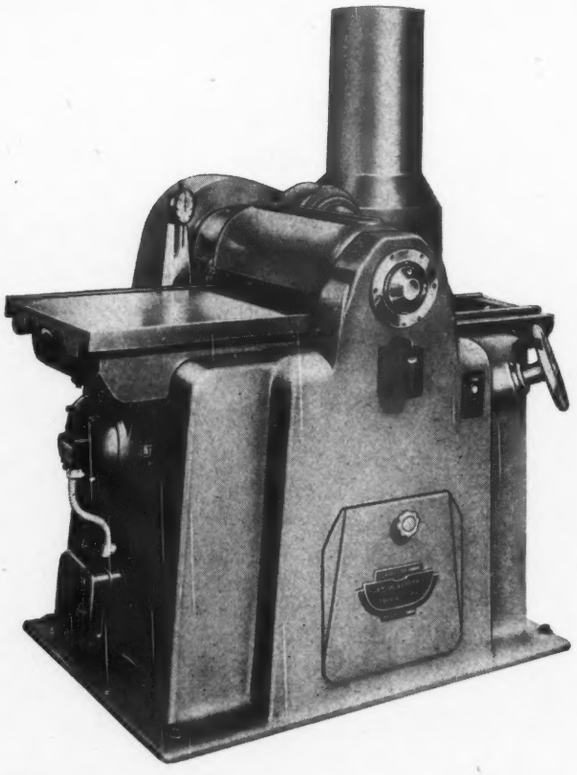
The Hess & Barker 4 Color Press



Here's a four-color press having many unique features. This press makes possible highly efficient results in publication, folder, bulletin and direct mail printing. Prints one to four colors; 600 feet per minute; length of print per revolution, 22″ to 29″. Unusual hydraulic rewind maintains hairline register. Space does not permit our giving you complete description of this press. Write today for complete information.

The Barker Rotary Shaver

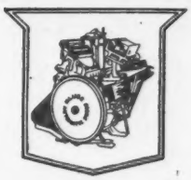
The Barker Rotary Shaver for heavy-duty precision plate shaving work will be available after the war, but right now is the time to investigate this fine equipment. The machine will shave from type high to 16 gauge and will handle any plate from 2″ x 2″ to 18″ x 24″. Micrometer gauge control; hand-wheel adjustment for cut to one thousandths of an inch. The Barker Rotary Shaver has five "V" driving belts with automatic controlled tension. There are no complicated clutches. Cutters are easily removed for grinding.



HESS & BARKER

212 SOUTH DARIEN STREET PHILADELPHIA 7, PA.

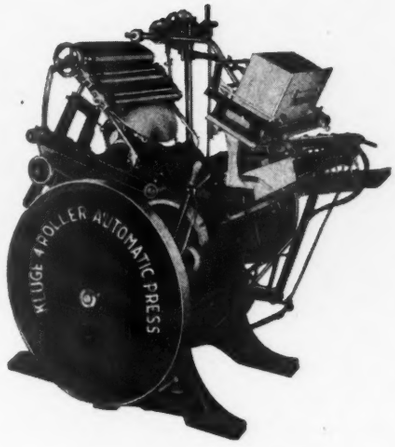
ARMY (E) NAVY

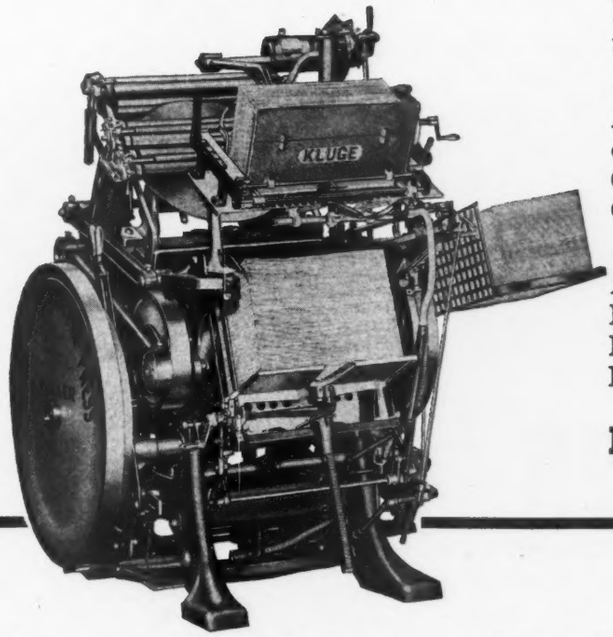


CONSIDER

KLUGE PRESSES

IN YOUR POSTWAR PLANS





★ Today many printing plants are considering the new equipment they will need to handle the various types of work available after the war. We invite such plants to consider the KLUGE AUTOMATIC PLATEN PRESS that for 25 years has been a standard of quality for presses.

★ Here's a press noted for its exceptional versatility in that it handles automatically virtually any weight of paper from the lightest tissue to the heaviest card and board. Its unique distribution system and its absolutely rigid impression make the Kluge capable of producing printing long considered outside the scope of a platen press.

★ The KLUGE AUTOMATIC PLATEN PRESS is made in two sizes, 10x15 and 12x18 and in several models with either four or six rollers.

★ Consider also, in your plans, the KLUGE AUTOMATIC FEEDER for use on either old or new series C & P Platen Presses or KLUGE Open presses. It is built for 10 x 15 and 12 x 18 Craftsmen presses.

★ Other equipment for your consideration is the KLUGE AUTOMATIC DIE-CUTTING and EMBOSSING PRESS and the KLUGE COMBINATION DIE-CUTTING and PRINTING PRESS. Write today for detailed information.

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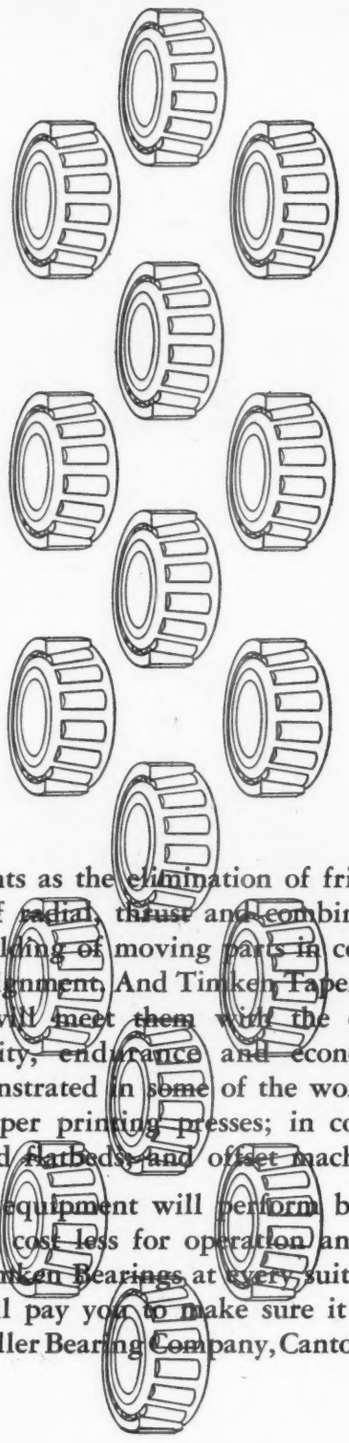
FOR 25 YEARS A STANDARD OF PRESS QUALITY

MAKE TIMKEN BEARINGS A "*must*" IN NEW PRESS DEVELOPMENTS



WHAT'S ahead in the printing industry? Will present methods and machines suffice to meet post-war demands, or are revolutionary new developments on the way? Will letterpress retain its position, or will the offset and intaglio processes successfully challenge for the lead?

The anwers to most of those questions probably now are taking form in the minds of equipment engineers and on their drawing boards.

No matter how radical the new presses may be in design and operation however, the same old bearing requirements will have to be met; such requirements as the elimination of friction; the carrying of radial, thrust and combined loads; and the holding of moving parts in correct and constant alignment. And Timken Tapered Roller Bearings will meet them with the efficiency, dependability, endurance and economy they have demonstrated in some of the world's largest newspaper printing presses; in commercial rotaries and flatbeds, and offset machines.

Your new equipment will perform better, last longer and cost less for operation and upkeep if it has Timken Bearings at every suitable position. It will pay you to make sure it has. The Timken Roller Bearing Company, Canton 6, Ohio.

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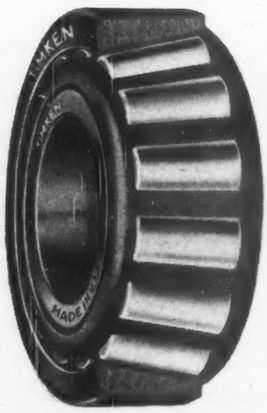
TAPERED ROLLER BEARINGS



The Proof IS IN THE PRINTING!

FEDERATED PROCESS TYPE METALS ARE PERFECTLY ALLOYED FOR MAXIMUM SERVICE

There is a great thrill in seeing high quality work rolling off the press—and there is a satisfaction in having high quality metal rolling into the plant. That's where FEDERATED PROCESS TYPE METALS step in.

They cast smoothly, solidify quickly with minimum shrinkage, are free from porosity, withstand high pressure without loss of sharpness, work with a minimum of dross for greater economy and reproduce with minimum make-ready.

Back of these superior type metals is precision alloying to insure that free-flowing, tough-without-brittleness uniformity so necessary to modern typography.

Consulting service available through your nearest Federated office

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PROCESS TYPE METALS

LINOTYPE	ELECTROTYPE
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SAVEMET (a compound for recovering metal from dross)	SPECIAL ALLOYS
	COPPER ANODES
	MOR-TIN-METAL (an adjusting alloy)

• Available in bars, ingots, pigs or in standard feeder form. Prompt delivery. Dross drums furnished free of charge. F.O.B. refineries.

• The methods used in the manufacture of Federated process type metals are protected by U. S. patents.

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THESE INKS ARE DIFFERENT because they "stay put"—set faster and print sharp. Cuts reproduce like the camera told them, advertisers stop calling for re-runs, and even debutantes admit "it looks like me—well, just a little"!

The new Huber News Black Inks *know their place* . . . give a cleaner, sharper reproduction that makes reading easier. And what's more, they eliminate build-up on angle bars, pipes, etc. They decrease first impression offset, lessen strike-through, and have less tendency to rub off on hands.

One of these three new inks is certain to exactly fit your needs—and all are now obtainable at short notice. Consult your Huber representative or write any office of J. M. Huber, Inc.: New York, Chicago, St. Louis, Boston.

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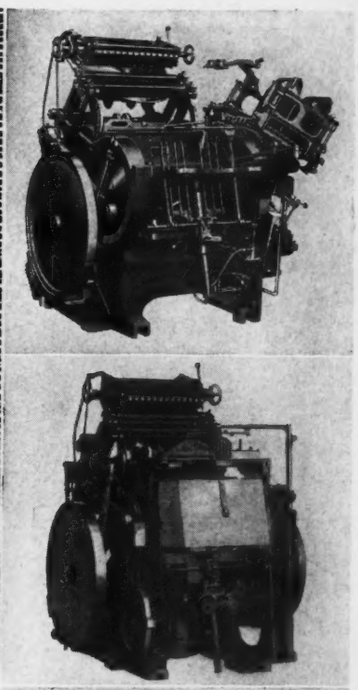
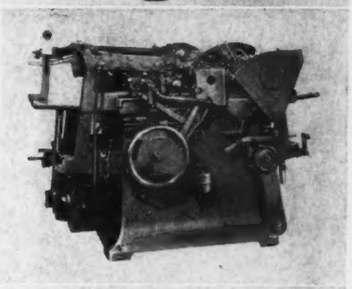


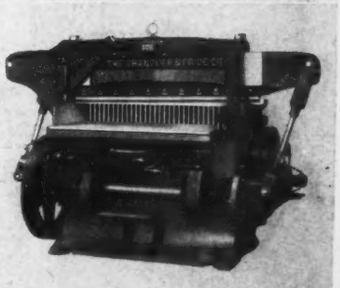
Pioneer of Freedom

GREAT have been the advances in the art of printing since the 16th century when the wooden hand press was used.

Today the printing press is playing an important role in the fight to maintain the democracy which it has been so instrumental in creating.

When Victory is won, Chandler & Price presses will be manufactured again for unrestricted civilian purchase. Right now our facilities are devoted almost entirely to the production of materiel for war. C & P printing machinery is manufactured only upon government approval. But our service and parts departments are ready and able to help you keep your C & P presses and cutters in operation. Inspect them frequently...lubricate them properly...keep them clean...anticipate repairs and make them promptly . . . and let us have your inquiries for advice and suggestions.





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Builders of Printing Equipment for more than 50 years

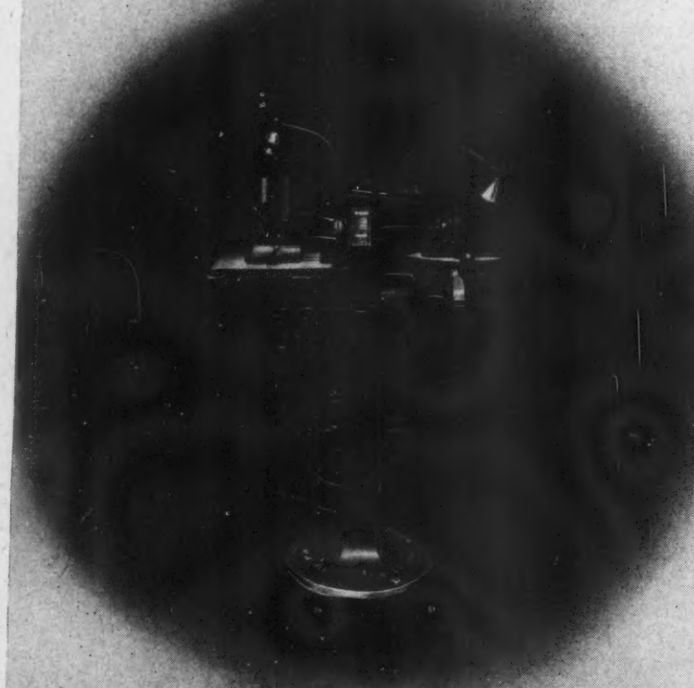
ORDER C&G EQUIPMENT *NOW!*

It pays to plan ahead and insure early delivery on neccessary equipment by ordering as soon as you make a decision.

C & G equipment is efficient, fast, and safe to operate. It has been developed to meet actual working conditions.

The No. 3-A C & G Saw Trimmer is an accurate production machine. In addition to the many exclusive features which are a part of the Saw Trimmer, there are several special attachments that greatly increase its capacity and range of operations. An illustrated circular is available which shows the Positive Work Holder, Any Angle Gauge, Balanced Saw Arbor with Automatic Indexing, Roller Bearing Gauge, patented Universal Saw Blades with Saw Grinding Attachment, and many other time savers.

There is a C & G installation close to your plant. Write for list of users.



The C & G Router, Jigsaw and Type High Machine enables you to make outside and inside mortises, key changes, and many other jigsaw and routing operations in your own plant, thus eliminating waiting due to sending plates outside. An illustrated circular shows how you can cut tint plates, rout out backgrounds, or plane to type high, with a single investment. Send for your copy.

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A TRIBUTE

The torch in Miss Liberty's right hand is a symbol of the freedom for which we are all sacrificing. The fuel to keep the torch burning is the widespread dissemination of the printed word among our free people.

The Printing Craftsmen of America have carried on their job of keeping the printed word flowing uninterruptedly – despite the ever-increasing handicaps of manpower and material shortages – in a way that merits the highest admiration.

Hoe recognizes its responsibilities to these Craftsmen and will continue to ease their burdens to the full limit of its ability by giving prompt, intelligent attention to all servicing problems that may arise.

Back the Invasion . . . Buy more War Bonds

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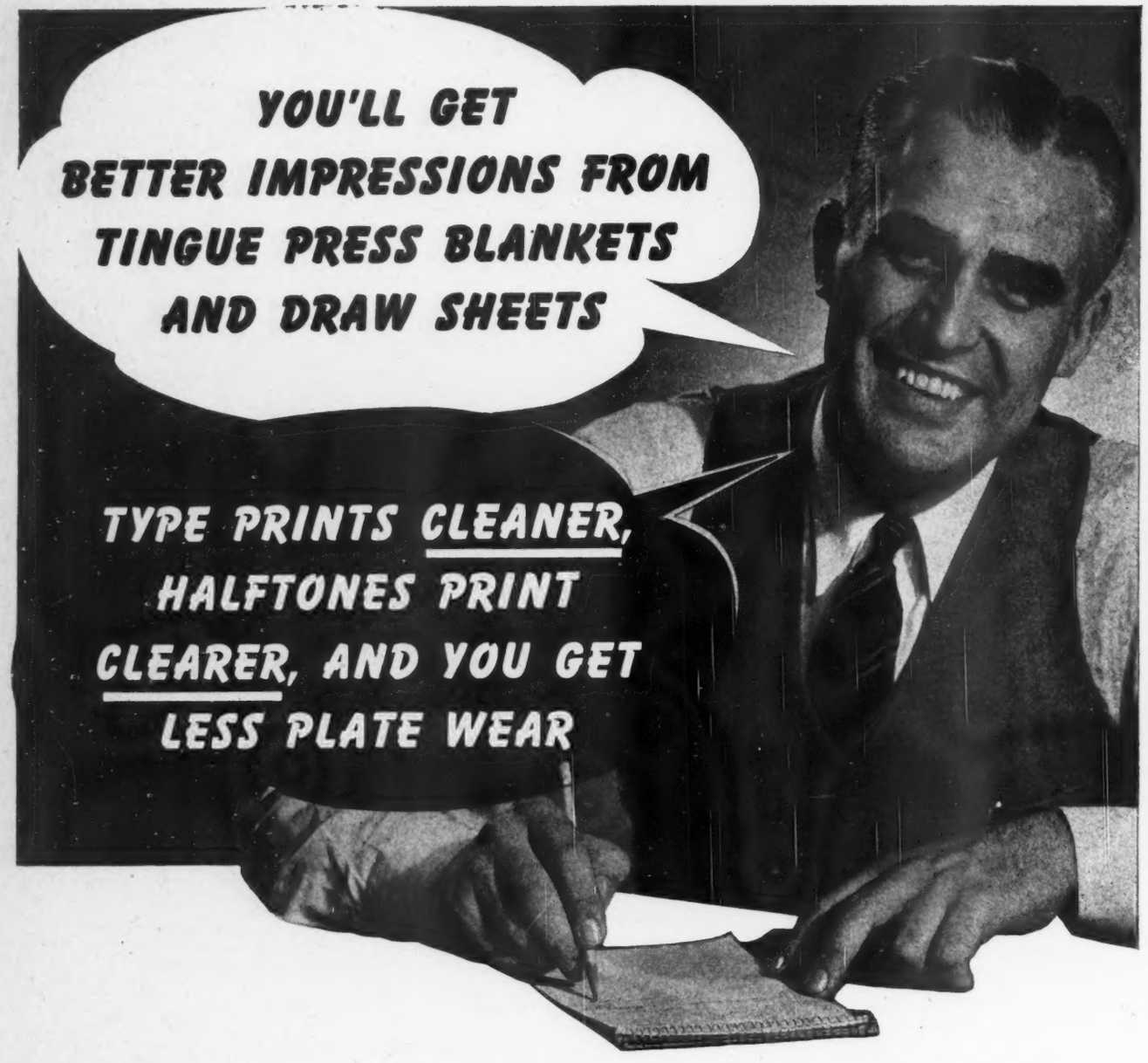

When you pack your press cylinders with Tingue Printing Blankets and Draw Sheets you can be sure that the makeready time is well spent. These durable, dependable and tough packings measure up to every requirement for precision presswork at high speeds. On long runs, type, rules and cuts print as clean and clear on the last impression as they did at the beginning of the run. The reason: They do not creep and have sufficient resiliency to accept extreme compressive stresses including web breaks, instantly regaining their original gauge. Tingue Press Blankets and Draw Sheets were designed by and for practical printers, and are being constantly improved to meet new developments within the industry.

"CUSHION CORK"—Called the safety blanket because its high resiliency allows it to accept extreme compressive stresses, such as web breaks, and still immediately recover its original size or gauge.

"TINGUCORK"—Of greater density than "Cushion Cork"; should be used as a companion blanket with "Cushion Cork" where a draw sheet provides the printing surface.

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Look around you: You'll find that most of the printing and typographic service houses enjoying a reputation for producing work of high quality are operating with the advantage of Monotype equipment. They use Monotypes for the production of machine composition and to make type and materials used in hand work and make-up. For there is always a profitable market for the best composition and presswork—a market which is open to any Monotype owner.

LANSTON *Monotype* MACHINE COMPANY

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Monotype faces used: Stylescript, Kennerley Bold, Baskerville; cap Q is Caslon, No. 337, enlarged.

WEIGH THE ROLLER REQUIREMENTS OF YOUR INDIVIDUAL PLANT

Which Roller do you prefer?

For Production we recommend

SYNTHOCRAFT Ideal Synthetic rollers are particularly designed for high-speed production and good-quality work. These precision-ground rollers have an excellent surface, easy to clean in washup machines. Rugged and tough, they withstand quick handling by less experienced operators, yet produce good-quality work at production speeds. They are economical in operation.

For Quality we recommend

MASTERLITH Ideal Vulcanized-Oil rollers are the finest lithographic rollers made. They possess an unusual affinity for oils in inks. This assures a smooth, constant, delicate transfer of colors from your forms without resorting to fussy changes and manipulation of inks. They are high-quality rollers for producing the finest type of work.

Each of these rollers is built to serve a specific purpose and their adaptation to your presses should be governed by your individual plant requirements. You may need some of both types of rollers or a combination of them on the same press. With proper care and attention, Ideal lithographic rollers will outperform any roller built.

Order your supply of these modern lithographic rollers today from your nearest Ideal representative.

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NOTE: If you have not received your copy of our Cleaning Instruction Chart, we shall be pleased to send it upon request.

IDEAL ROLLER & MANUFACTURING COMPANY

2512 West 24th Street, Chicago 8, Illinois ★ 21-24 Thirty-ninth Avenue, Long Island City 1, N.Y.

★ ★ ★ *Awarded Army Ordnance Flag for outstanding contributions in ordnance production* ★ ★ ★

"How's your boy doing?"

"Gosh, I wish I could know. Haven't heard from him in over five weeks. Hope he's all right. See by the papers that his division is in the invasion. What about your fellow?"

"Last we heard from him was just before his crowd landed on Biak off New Guinea. I read they had a pretty tough time there."

Millions of American men—and women—want information these days—information about their splendid boys over there—information that they are safe, that they are doing a fine job, and that there is reason to hope they will be home soon—victorious.

During these war days information regarding new and better inks, and printing techniques is of small importance. It can wait. We believe we will be ready at the proper time.

Meanwhile let us of the Graphic Arts do faithfully our part on the home front by buying more bonds, by contributing to the various war activities and by reaffirming our faith in and devotion to "the Land of the Free and the Home of the Brave."

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FRED'K H. LEVEY CO., INC.

Makers of Fine Printing Inks Since 1874

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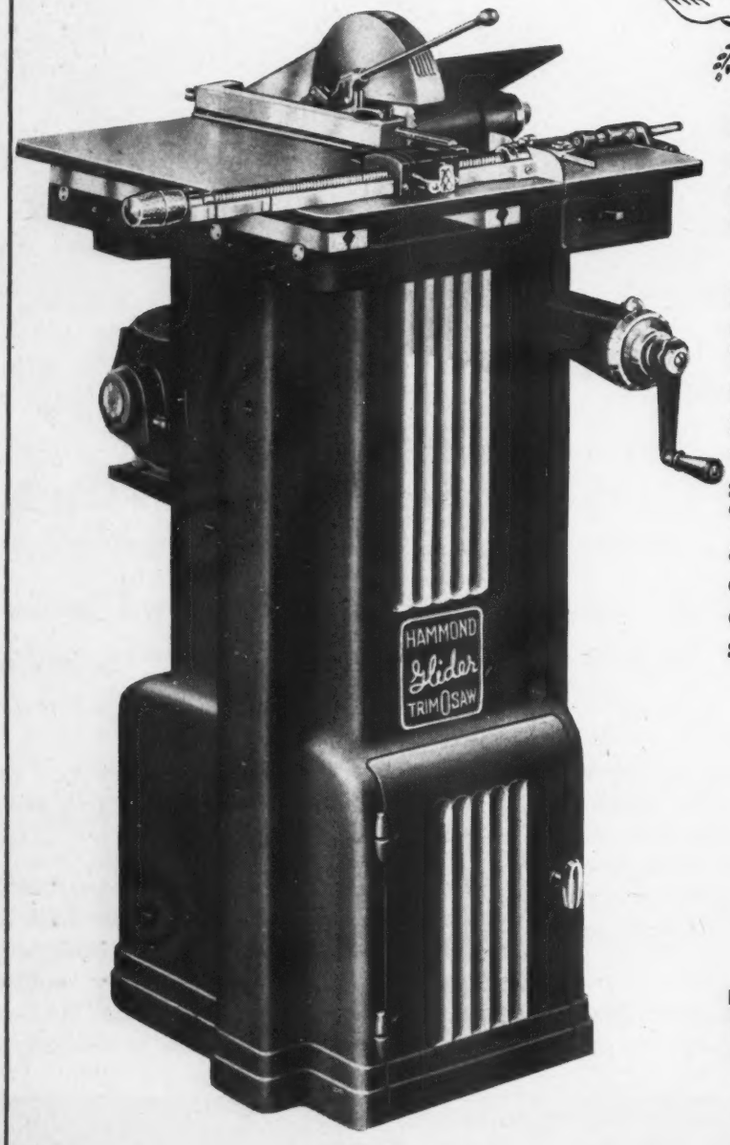
When Peace Comes



Have you a definite program for the purchase of the new machinery you will need when peace comes? We have and many others do!

With the necessity of reducing costs after the war, your program should include a Glider TrimOsaw. Without a modern saw, there is much wasted time that is rarely seen except by the men who are having to put up with slow-poke and inaccurate sawing. The Glider is the fastest and most accurate saw ever built. It is the choice of most — make it your choice for better and lower-cost sawing after the war.

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★ Hammond Machinery Builders INC. ★

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SOME PROMINENT PERSONALITIES WHO HAVE A PART IN PROGRAM INTERNATIONAL ASSOCIATION of PRINTING HOUSE CRAFTSMEN'S CONVENTION

The 1944 Convention of the International Association of Printing House Craftsmen is being held at Hotel General Brock, Niagara Falls, Ontario, July 24, 25 and 26.

Shown on this and succeeding pages are a number of executives associated in the Graphic Arts Industries who will participate in the technical program.

1—Charles Conquergood, Canada Printing Ink Co., Ltd., Toronto, besides being resident chairman of the Niagara Falls convention, will preside as chairman of the feature meeting during which *Manpower and Personnel* will be discussed.

2—*Printing Inks, Past, Present and Future,* is the title of address to be delivered by Anthony J. Math, President of the National Association of Printing Ink Makers.

3—Joseph Machell, Superintendent, Stecher-Traung Lithographic Corp., Rochester, N. Y., well known in lithographic circles, will present a paper entitled *On Improving Offset Quality.*

4—David Rapport, President, Rapid Roller Co., Chicago, is scheduled to address the convention on *Present and Postwar Commodities for the Lithographic Industry.*

5—Genial Edward Patten, of Toronto Club, besides serving as resident vice chairman of the convention, will discuss Club Management at the clinic bearing the same name.

Ernest Jones, President, Graphic Arts Corporation of Ohio (Toledo) shown above, will be co-chairman with R. Ernest Beadie, of Fred'k H. Levey Co. of Canada (Montreal), at the Offset Platemaking and Printing Clinic. Mr. Jones has spoken before many Graphic Arts groups, including local Craftsmen's Clubs. This clinic promises to be one of the most interesting of the entire convention.

Arthur W. Brooks, formerly production manager, American Colortype Co., but now consultant of WPB's Printing and Publishing Division, will discuss *Uniform Standards of Paper Weights.*

William C. Huebner, father of the photocomposing machine and other important inventions, will discuss *Future Possibilities in Printing Production.* No doubt Mr. Huebner will expand upon his statements at the 1943 convention in Memphis by way of permitting his hearers to secure definite ideas about his photo-textypesetting machine and the electronographic printing press.

1943-1944 Board of Governors
International Association of Printing House Craftsmen

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L. W. (Lex) Claybourn, who is known far and wide for his espousal of precision in letterpress printing will speak on *Scientific Methods in Letterpress Printing*. Mr. Claybourn is executive vice president of J. W. Clement Co., Buffalo, and will exhibit specimens of and will discuss rotary letterpress printing in actual plant production.

Robert D. Ross, who hails from Chicago, and who is now deputy director of WPB's Printing and Publishing Division, discusses *The Printing Industry Under War Limitations*.

Edward T. Samuel, Superintendent of A. S. Gilman, Inc., Cleveland Commercial Printers, will serve as co-chairman of the Shop Methods and Management Clinic. He will assist Lester Oswald, Production Manager of E. F. Schmidt Co., Milwaukee. Shop management clinics at Craftsmen's conventions have always been productive of much valuable information.

Feeling That Letterpress and Offset Are Natural Enemies Will Disappear

By HON. A. E. GIEGENGACK*

**From address delivered by Hon. A. E. Giegengack, U. S. Public Printer, before Lithographers National Association Conference, Chicago, May 1944.*

IN the not distant past, letterpress printing and lithography have been considered competitive methods—natural enemies, to be opposed whenever the opportunity presented itself. I think this attitude, which has already begun to diminish, will disappear from both branches of the industry by the time we get into peacetime production. These methods, as well as gravure, have too much in common and too many mutual interests for such shortsighted principles to apply. With plenty of work for all, an equitable distribution of it will be made. Many finished printing jobs will be a combination of two or more methods of production.

The Government Printing Office has made some interesting applications of this principle. To cite a simple one, the Signal Corps of the Army recently required many copies of catalogs consisting almost entirely of rather involved tabular pages of let's say 6 columns. Incidentally, we had some extended negotiations with the Department and a good deal of planning before we reduced the complex requisition to such a simple denominator. Many man-hours would have been required to hand insert rules on the 600 pages of the book. What we did was to produce it by straight machine composition with an absolute minimum of make-up. Transparent proofs were pulled of running heads and rules which were superimposed on the type page proofs and shot for offset-lithography. The combined methods saved thousands of dollars and, more important, a considerable quantity of paper. In the future, many such plans will be worked out to the over-all advantage of the whole industry.

Lauck Awarded Medal

Many members of Printing House Craftsmen throughout the country will be interested to learn that C. Harold Lauck, laboratory instructor in journalism and superintendent of the Journalism Laboratory Press of Washington and Lee University, Lexington, Va., has been awarded the Harry J. Friedman Memorial Gold Medal for outstanding contributions to Graphic Arts education. The medal is awarded annually by The New York School of Printing. It was bestowed this year at the graduation exercises on June 22. Among others who have received it previously are: Dr. Frederic W. Goudy, type designer; Harry L. Gage, vice-president of the Mergenthaler Linotype Company; Fred J. Hartman, educational director of the National Graphic Arts Education Association; and Laurence B. Siegfried, Syracuse University printer. Mr. Lauck has been active in graphic arts education since 1932 and was president of the National Graphic Arts Education Association in 1939-40. Since 1932, Mr. Lauck has supervised the printing of many keepsakes and collectors' items at the University Press. He is a member of a number of societies in the field of printing and journalism, and is active in civic, community and religious affairs of his home town of Lexington.

MINIATURE BIOGRAPHIES

IN last year's Craftsmen's Convention Number, Printing Equipment Engineer *published miniature biographies of all members of the official board of the International Association of Printing House Craftsmen. Since then, a new third vice president has been elected and one appointive position has been replaced—that of editor of* Share Your Knowledge Review.

Immediately following are Miniature Biographies of the new members of the International Board—Third Vice President W. H. (Bud) Griffin, and Edward H. Christensen, editor of SYK Review.

W. H. (Bud) Griffin

THE 1944 Third International Vice President feels that his life, like that of most other Americans, has been quite drab and uneventful. However that may be, W. H. Griffin has had a life full of activity. For one thing, he is well traveled. Perhaps this fact has had something to do with his present preferment as an International Vice President. Let's see.

Mr. Griffin was born in Columbia, Tenn., in 1901. His father owned a string of race horses. The family moved to California when he was four years old. He attended school in California, Chicago, Garden City, Long Island, N. Y., New Orleans, Washington, D. C., and again in California in 1911 when his father passed away. He started his printing apprenticeship in 1913. After two years of general work around the shop in the pressroom and bindery, he decided he liked composing room work best.

He received his Typographical Union card at 17 years of age. It is said that Mr. Griffin is the youngest printer ever to have received a card from Oakland Typo Union. He still is a member of the typographical union. While working as an apprentice he went to night vocational high school in Oakland. He was graduated in printing and English three years later. At 18 years of age he was foreman of a composing room in Berkeley, one of the largest plants on the Pacific Coast. In the following year he decided he would get experience by working in numerous plants. These journeys took him to Sacramento, San Francisco, and in a number of country plants.

After "settling down" in Berkeley for a number of years, he was offered the management of a trade composition plant in San Francisco which position he held for two years.

In June 1933, Mr. Griffin took over the defunct San Francisco Composition Co. which had been closed for two years. The equipment consisted of two Monotype keyboards and two casters. He tells it himself: "This was in the bottom of the depression. I guess I had more nerve than business sense." After eight months of operation, however, business had increased to the point where he needed a partner. His younger brother Earl (who is known to many Craftsmen) came with him.

In 1935, the Griffin firm took over a two-machine Linotype plant, to which the older Monotype plant was moved at 447 Sansome St., San Francisco. At the present time, the Griffin Bros.' typesetting plant consists of five Linotypes, two Monotype keyboards and four casters, one Elrod, one APL machine, four Vandercook proof presses and other necessary equipment for first class floor production.

Mr. Griffin was married in 1927. He and Mrs. Griffin have two adopted daughters aged 5 and 8 years respectively. The Griffin family seems to be pretty well represented in the printing profession. Of five sisters, one is a proofreader and one married a printer. His two brothers are in the printing business. Mrs. Griffin's brother is a compositor.

Mr. Griffin's additional training for the international official family commenced when he was elected president of East Bay Craftsmen in 1929 and 1930. He was president of the San Francisco Club in 1940. He was International representative in 1933-34-35 and again for the two years 1941 and 1942.

Edward H. Christensen

BY virtue of his recently acquired position as editor of *Share Your Knowledge Review*, all Craftsmen already know Edward H. Christensen better—either personally, or more simply, because he *is* editor of a publication in which they are highly interested. Mr. Christensen, like most other Craftsmen, has to work for a living. In doing this he functions as production manager for Central Typesetting & Electrotyping Co., Chicago, a subsidiary of the W. F. Hall Printing Co. He has been connected with this firm 24 years.

Mr. Christensen's apprenticeship in the printing business began while he was going to high school in Genoa, Ill. "The editor of the Genoa *Republican*, C. D. Schoonmaker," states Mr. Christensen, "was a real printer who loved type. From him I learned to enjoy fussing with type to make it work effectively." After graduating from school in 1919, Mr. Christensen became a compositor for Chicago's Central Typesetting & Electrotyping Co. Successively he became foreman of the magazine department, assistant composing room superintendent, and more recently production manager.

In the last few years, probably because its use fits in with the exacting nature of his profession, Mr. Christensen has been fascinated with the possibilities of the slide rule in the composing room as an aid in estimating type. He became proficient enough in the use of the slide rule so that he has been enabled to make a number of addresses advocating its use as a time-saver in estimating copy.

Mr. Christensen's one hobby is books. He has bought hundreds of them mostly because they were well printed. He confesses, however, "I haven't read half of them."

He is a member of the Typocrafters, the Society of Typographic Arts and the Society for the Advancement of Management. He is married and is proud father of a daughter 14 years of age.

Two New Members for Printing Plates Research

Two new firms have become associated with Printing Plates Research, Inc., as sustaining members. These are Bomac Electrotype Co., Ltd., Toronto, Ont., and Conde Nast Publications, Inc., Greenwich, Conn. The addition of these two companies makes a total of 16 firms cooperating with Printing Plates Research, Inc. Printing Plates Research is a non-profit organization which was organized some time ago to conduct cooperative research and investigational work to improve electrotypes. Two outstanding accomplishments have been announced to date. One of these is a method for iron plating electros and the other is the development of a plastic molding medium for making electros.

Wins Third Army-Navy Award

Another star has been added to the Army-Navy "E" flag that flies beside Old Glory above the Linotype plant in Brooklyn—the third Army-Navy award the Linotype has received for continuing excellence in the production of war equipment.

In notifying the men and women of Linotype of this latest honor, Under Secretary of War Robert P. Patterson wrote: "In maintaining the fine record which first brought you distinction, you have set an inspiring example for your fellow Americans on the production front.

"This second renewal adds a second White Star to your Army-Navy Production Award flag, and stands as a symbol of your great and continuing contribution to the cause of freedom."

Specifications—A New Postwar Purchasing Trend In the Printing Plant

(*An Editorial*)

THERE'S a distinct new trend in the printing industry which has been accentuated since we have been at war, and which will no doubt be carried over permanently into the postwar period. This trend should be noted by every mechanical and production executive because it will affect his status and technique with respect to the purchase of printing equipment and supplies. We want to discuss it now in these columns because we believe it of sufficient importance that you give it some thought.

This trend was brought to our attention recently by E. Byron Davis, Vice President of Ideal Roller & Mfg. Co. Mr. Davis said that during the war, millions of dollars' worth of printing and other orders have been placed directly and indirectly with the Graphic Arts Industries. In all of these orders specific instructions have been given to various printers and lithographers relative to the weights and kinds of paper, types of ink, whether or not the jobs were to be printed from certain types of plates, and other detailed information necessary to meet complete Government requirements in producing these jobs.

In addition, continued Mr. Davis, many printers have been engaged in producing items entirely foreign to their usual Graphic Arts products. In receiving specifications for this work, printers have been made conscious of the Government method of setting up standards and gauges for controlling the quality of the product for which it has placed orders.

Production and mechanical executives who have had experience in executing some of these Government orders have been impressed with the meticulous care taken in specifying the smallest details in a job. In effect, it has educated them in a "big time way", and has made them more conscious of the fact that the Graphic Arts Industry really is a business and is not one of the minor "arts". Mr. Davis predicts that this emphasis on detail in production will have a definite carry-over effect on the purchases of printers after the war. It seems certain now that both the purchasing agent and the plant executive who have had to be extremely careful to meet Government specifications on paper, ink, stitching wire, and the like, will continue to be conscious of the specification angle of these orders after the war.

Plant executives will heave a sigh of relief when restrictions are lifted on materials used by the industry. The influence of these "disciplinary" measures plus the acceptance and execution of Government orders carrying complete specifications will leave a deep impression upon these men. They will retain the idea which has been instilled in them during the past two years that a certain amount of money should buy definite quantity and quality.

In some instances, the innumerable items which have had to be purchased and the difficulty in obtaining them during the past two years, has placed the purchase of those items beyond the influence of the executives who actually have had to use them. Simply, it was not physically possible for plant executives to handle all of the added detail entailed by purchasing procedure, and in addition, to do a good production job in the plant. Some of these purchasing specialists no doubt, will continue to function when peace-time comes.

It seems that the mechanical or production executive who will continue to do the buying or who will determine what shall be bought after the war will remain impressed with the idea that there are certain standards applying to materials and supplies which he has every right to expect shall be adhered to. He will be a much wiser and more exacting buyer than ever before.

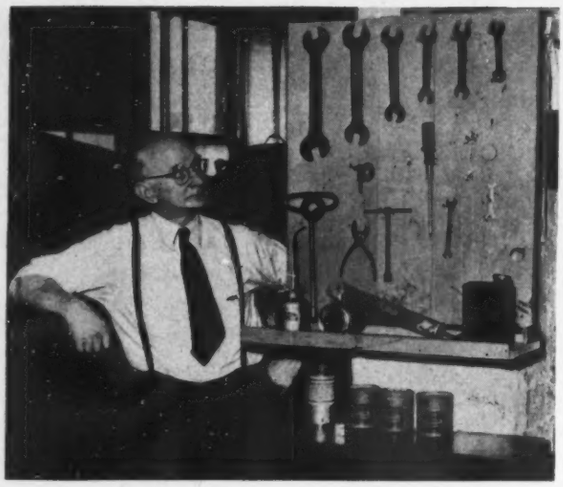
Accordingly, the manufacturer and supplier will direct his appeal to these men as well as to the actual plant executive who must be consulted before purchases are made.

This trend, as we are pleased to call it, does not mean that the purchasing agent and the plant executive will be price buyers. On the contrary, they will attempt to purchase products which meet high standards and which will affect economies in plant operation. They will be willing that their firms pay for products without too much quibbling.

Now, this also brings up the thought that the mechanical or production executive has a grand opportunity for improving his value to his plant. He should prepare now for this certain change in the manner of buying equipment and supplies.

The smart executive is the one who makes his purchases or requests for purchases of equipment and materials on the basis of factual information rather than personal inclination or prejudice. If he has not already thought of associating specifications with his purchases, the plant executive will do well to get in line with the practices of other industries. We feel, too, that the long-sought for subject of standardization of certain products used in the printing industry will be that much nearer realization if factual specifications are made a condition of purchase requisitions.

In noting this trend, the manufacturer no doubt will revamp his literature to meet the new postwar purchasing requirements. He will fortify himself with facts and figures respecting his products so he can answer pertinent questions which will be asked about his products.



Wm. J. Schneider, pressroom foreman of the William Feather Printing Co., Cleveland, has devised a color code system for the tools belonging to each press. This informal "shot" of Mr. Schneider was taken beside one of the tool boards. The tools on this board have been painted red to identify them with the cylinder press at the left. In this way, loss of time in locating a certain tool which may have "wandered" to some other part of the plant is obviated.

Color Code For Press Tools . . .

THERE is nothing new about tool boards for the mechanical departments in printing plants. In fact, every well ordered plant is provided either with tool boards or open-top chests where wrenches, pliers, screwdrivers and the like are kept. Much time is thus saved in getting machines, particularly presses, in running order.

An improvement in the tool board idea has been devised by Wm. J. Schneider, pressroom foreman of the William Feather Printing Co., Cleveland. Not only have individual tool boards been provided for the presses, but the tools which came with each press are identified by painting them with a different color. Thus the tools for No. 1 press are painted red, tools for No. 2 press are painted green, for No. 3 press the color would be blue, and so on. We don't suppose we are giving you the exact colors for each press in the Feather plant but it will explain the color code system for tools for each press.

The boards upon which the tools are mounted are painted a light gray. Besides the brackets for supporting the tools, a shelf is provided at the lower part for oil can, ink spray gun and a can of varnish. Underneath is a small cabinet containing reducers, roller wash, inks and cleaning cloths.

In the William Feather plant, the bindery is adjacent to the pressroom. The bindery tools may "stray" into the pressroom or vice versa. To overcome loss of time in hunting for tools belonging to one department or the other, the bindery tools are painted yellow.

By means of the color code it is possible to devise an innumerable number of colors, including black, white and gray painted tools. It would also be possible to leave the tools for any one machine in their natural finish just as they have been received from the manufacturer.

Some Letterpress Printing Problems And Their Causes

Summary of address delivered by Wm. J. Schneider, Pressroom Foreman, The William Feather Printing Co., Cleveland, before the Cleveland Craftsmen's Club, April 1944.

THE best way to avoid 50% of letterpress pressroom troubles is to keep the pressroom clean. The room and equipment should be kept in good condition. Good rollers should be kept in the presses and the cylinder and bed in each press should travel in unison at all times. If these things are done, troubles will be reduced by at least 50%.

The letterpress printing industry is dependent upon the cooperation of several other trades. If cooperation of the composing room, the engraver and the platemaker is what it should be, then better work all around can be produced.

In the printing plant, the problems of execution can be considered as being in two groups—those problems which can be avoided and those which are unavoidable.

The problems which can be avoided are those resulting from mistakes, carelessness, poor management, poor layout, forms made up wrong, stock backed up wrong, poor makeready, wrong stock and inks, colors run in wrong sequence in process work, and the like.

Some of the unavoidable problems are varying atmospheric conditions which cause loss of register, sheet wrinkles, drying troubles and offset.

Prevention or solution of these problems is dependent upon knowledge of the various possible causes. For every trouble there is a cause and for every problem there are factors which make it a problem.

A good printing plant operates on a single standard of workmanship. This standard, however, varies widely among different plants. Whatever the standard is, the pressroom must aim to reach it on all jobs. If the men are told to skimp on some jobs, they will skimp on all jobs and soon the standard will sink to a low level.

One of the foremost pressroom problems is to get paper that can be really printed upon. Fine papers are not available today on account of wartime restrictions. But in normal times the pressroom is severely handicapped by being asked to produce an A-No. 1 job on 4-F paper. It simply can't be done. Often hundreds of dollars worth of fine halftones and fine composition are wasted in the attempt to chisel on the quality of the paper.

During the course of his address, Mr. Schneider exhibited a 16 page publication press sheet. He said this form had been prepared for the press so that little makeready was necessary. The type indicated that the compositor had done his work properly and the cuts were the right height. The form was OKd to go ahead and print. Now, what will happen if these things are not done? After printing 15 or 20 minutes, it will be necessary to stop the press because of workups, poor justification and curling of stock due to the grain running the wrong way in the sheet.

After these discrepancies have been corrected, it won't be very long until a slur will develop in the center of the sheet only. It will be found the cuts check out OK. The cause of the slur may finally be found to be in the sheet brush which has become worn in the center from usage.

The speaker exhibited a folder, the front page of which was printed in black and brown ink with brown ink for the background. After the ink had dried, the job was sent to the bindery. Word soon came from that department that the brown ink on the cover marked badly in handling. In this case, Mr. Schneider "got by" with the job by varnishing the cover. The inkmaker matched the color perfectly but apparently he used the wrong base for the brown ink upon the particular kind of paper upon which the job was printed.

Next was exhibited a folder printed upon silver paper with blue, red and black ink. The blue ink dried in 2 hrs., the red ink in 1 hr., but 6 hrs. were required for the black ink to dry. In the case of silver paper printing, you will find that one time it will dry and adhere to the paper perfectly. The next time the same ink will dry but will not adhere to the paper and scratch off. It is better for the pressman to allow trial sheets to lay overnight to test them for drying and see that they are scratch-proof and if the ink dries. If it is found that the ink will scratch off, apply more heat to bake the ink and make it scratch-proof. Another tip is to use just enough spray to "get by with."

Mr. Schneider exhibited a lettersize sheet printed on a proof press in black synthetic ink upon calendered paper. He

said he had tested the imperviousness of the ink to water by holding the sheet under a running faucet. It proved to be thoroughly waterproof. He then observed: "Don't expect too much from an ink—try them out yourself, and determine their worth."

Showing a 6 page color job printed in succession in yellow, red, blue, black and brown, he said the sheet was handled 10 times in the pressroom. In the case of this job, months had been spent in getting it ready for the printer and it was necessary to produce the work in three days' time. He stated better results could have been secured by running the yellow color last to avoid finger marks in the bindery. If the yellow impression isn't protected in some way fingermarks will show. In the instance of this job he said the layout man was at fault but admitted the pressroom foreman was partly responsible.

In discussing a three color chart, Mr. Schneider stated it is necessary to use the same cylinder packing on all forms. The red pattern in this job was out of register. If the packing isn't the same on all colors, register can't be secured because an extra packing sheet changes the cylinder diameter.

With respect to the printing processes, the speaker said letterpress and offset should be used together in a plant. The ideal way to sell printing, however, is to sell the job that is best suited to the process—not to sell the process itself.

Ejects 11 Pica-9 pt. Slug With 12 Pica Blade

In the Boston *Herald-Traveler* plant, the column width was changed recently from 12 picas to 11 picas-9 points, with the exception of the classified pages which carry 10½ pica columns. At the time the changeover was made, a couple problems on 30 Linotype straight-matter machines arose. The problems, however, were overcome by Chief Machinist James F. Hubbard in an interesting manner.

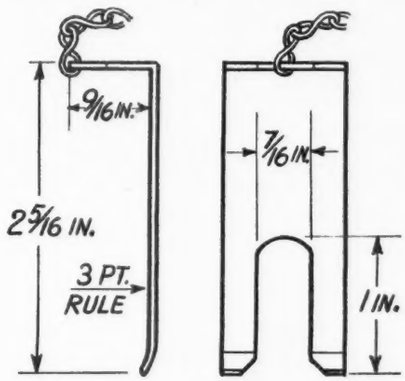


Fig. 1.—Diagram shows dimensions of 3 pt. thick packing piece or spacer which is inserted between the left vise jaw wedge guide and the wedge, when jaw is set for 12 picas to bring type face even with end of 11 pica-9 pt. slug on Linotypes in plant of Boston *Herald-Traveler*.

The first of the problems was to provide a means for the operator to change the vise jaws back and forth quickly between the two measures. It is easy enough, of course, to set the vise jaws to 10½ pica and 12 pica measures by means of the notched adjusting bar. To secure the 11 pica-9 pt. measure, with the left vise jaw set at 12 picas, Mr. Hubbard designed a packing piece or spacer. The operator inserts the 3 pt. packing piece between the left-hand jaw wedge guide and the face of the wedge. The packing piece is made from 3 pt. brass rule of the shape and size shown in Fig. 1.

When the operator sets 10½ pica material, the packing piece is pulled from between the wedge guide and wedge and is left hanging on a short length of chain fastened at one end to a hook in the vise cap.

The second problem which presented itself was that of ejecting the 11 pica-9 pt. slugs. All of the Linotype ejector blade equipment in the *Herald-Traveler* plant is in two-pica blade sections. Ejecting the 11 pica-9 pt. slugs with a 10 pica blade was found not to be satisfactory because of the 21 pt. deficiency in blade length.

It was then decided to eject the 11 pica-9 pt. slugs with the 12-pica ejector. As is indicated in Fig. 2, Mr. Hubbard machined 2 pts. depth from the projection on the left-hand mold liner to permit passage of the 12-pica ejector in each of the straight-matter machines.

In considering the plan for ejecting the 11 pica-9 pt. slugs with a 12 pica ejector, Mr. Hubbard states he thought trouble would be encountered with 5½ pt. slugs pulling back when the pot mouthpiece broke away from the mold after the cast, but he found that the slight taper at the ends of the liners prevented any pulling-back of the slugs. The diagram, Fig. 2, illustrates how Mr. Hubbard milled off the projection on the left-hand liners to permit passage of the ejector blade through the mold.

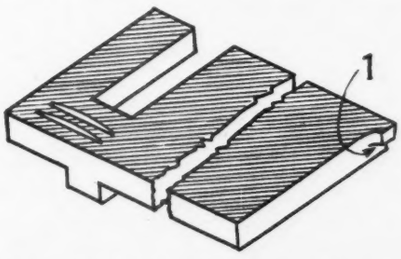
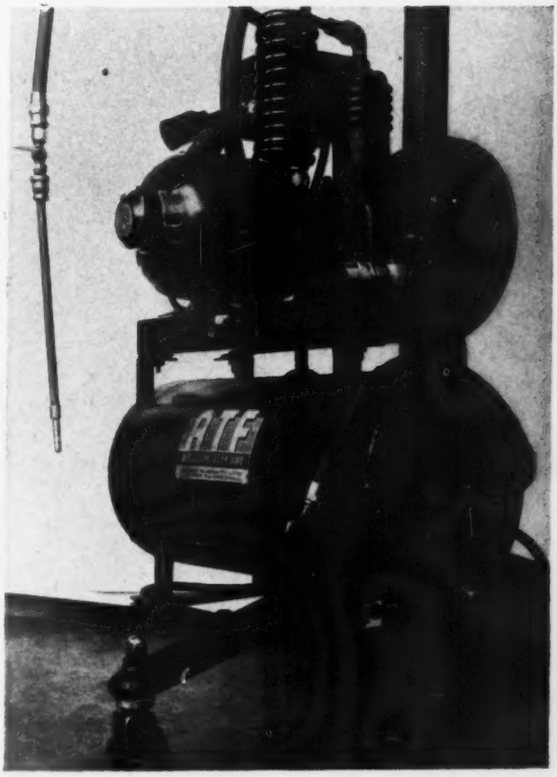


Fig. 2.—To eject an 11 pica-9 pt. slug on Linotype with a 12 pica ejector in plant of Boston *Herald-Traveler*, Chief Machinist James F. Hubbard removed to approx. 2 pts. depth stock from the left-hand mold liner projection to permit passage of ejector without injuring the liner.

Important Auxiliary Use of Offset Spray Gun Compressor

Joseph Pilarsky, pressman at the Union Gospel Press in Cleveland, has developed an important auxiliary use for the offset spray gun compressor unit. The Union Gospel Press plant is not supplied with a general plant compressed air line, so he, in collaboration with Wm. J. Butler, plant machinist, provided a detachable fitting to which 15 ft. of hose could be attached for cleaning presses and folding machines. The compressed air unit can be rolled into any position near a machine, suitable extra length electric cord being attached to permit operating the motor. The accompanying illustration is self-explanatory, making unnecessary any description as to "how it was done."



This offset spray gun compressor unit is being used in plant of Cleveland's Union Gospel Press to supply air for cleaning presses, folding machines, etc.

Conveyor Delivers the Goods

AN interesting application of war-time ingenuity has resulted in the design and construction of a conveyor extending from rotary press folder to bindery floor immediately above the press in the plant of the Baird-Ward Printing Company, Nashville, Tenn. The Baird-Ward Company, by the way, is a good size book and publication printer.

In discussing the conveyor, Superintendent W. E. Vinson stated that it was made especially for one job—a 5¼ in. by 7¾ in. 32 page and cover booklet printed on a Hoe magazine press delivering 24,000 copies per hour to the bindery, stitched ready for the trimmer. The conveyor was designed and built by President A. J. Baird, Machinist Bud Smith and Press Erector George Sorrell in the Baird-Ward machine shop. Considering that the printing industry is not an essential one and priorities are limited, Mr. Vinson feels these three men did an excellent job in providing his force with an automatic conveyor.

As will be seen by the lower illustration on this page, the conveyor rises 15 ft. at about 75 deg. angle through the bindery floor, terminating in a 9 ft. horizontal delivery table with tapes.

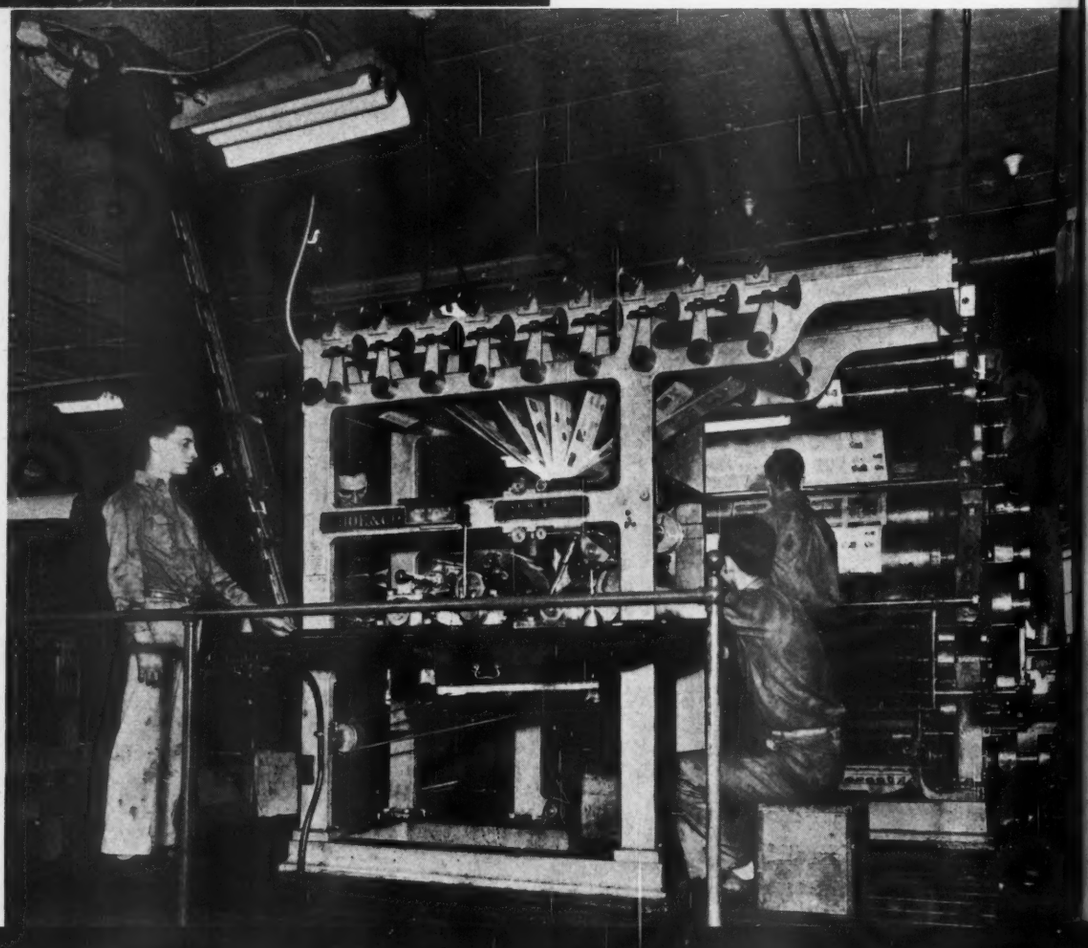
The framework or chute part of the conveyor is made from kiln-dried poplar bought especially for the purpose. The delivery table itself is made from packing case lumber and is fitted with a masonite top.

The rollers on which the tapes travel are turned from discarded folding machine rollers with bronze bushings mounted in discarded laminated cut-mounting blocks. The tapes are of the same type as are used on other equipment in the plant, such as folding machines and press delivery. This fabric is approx. 1½ in. wide.

The section of the conveyor extending from the press folder through the bindery floor above travels at press speed, being driven from the folder by a V-type belt and chain-sprocket arrangement.

The delivery end of the conveyor on the bindery floor is driven at a much slower speed to permit the books to overlap each other for ease in picking them up. The delivery end is driven separately by a ¼ h.p. motor and jackshaft arrangement (visible under the table in the upper picture.)

A series of tape tighteners were made up from rollers on spools turned from hardwood and mounted in the conveyor to permit adjustment to take up the slack individually in each tape.



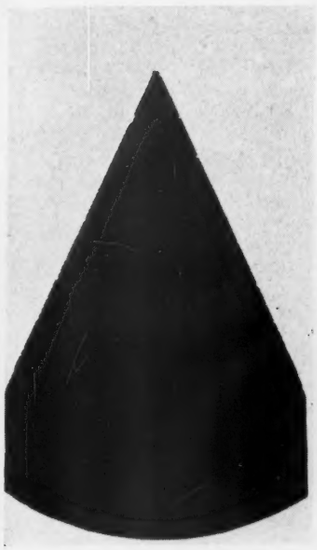


Fig. 1.

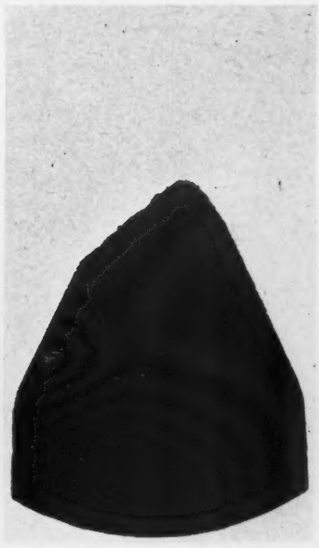


Fig. 2.

Fig. 3.

Fig. 4.

Redesigned Cutting Knife*

RESEARCH and experimentation extending over the past three years resulted in announcement of the final development of a redesigned cutting knife at the annual meeting of the Folding Paper Box Association of America recently. Report on the project was presented by R. F. Burroughs of the Trenton Folding Box Co., Trenton, N. J., chairman of the association's Development Committee.

Inaugurated in 1941, the project to redesign a cutting knife for folding paper box work has progressed to the point where the committee has now recommended its use by members on experimental press runs.

The redesigned knife has a blunt cutting point, supported by a rounded shoulder. Experimental runs during development revealed less loss of height on long runs than has been experienced in the use of the conventional knives now on the market. Robert J. Meagher, association research engineer in charge of the Packaging Bureau, stated in a brief interview.

Pictured below are photographs of both conventional and redesigned knives used during experimental operations. Fig. 1, extreme left, shows the pointed shape of the conventional knife before it was used on the press. Fig. 2 shows the same knife after 550,000 impressions had been run. Loss of height, Mr. Meagher stated, was 0.0082 in. Fig. 3 shows the redesigned knife before use on the press. Fig. 4 pictures the redesigned knife after 662,000 impressions. Loss of height was 0.0042 in.

During runs of both the conventional and redesigned knives, similar stock was used, and every effort was made to duplicate press conditions, Mr. Meagher said. Photos above are reproduced by courtesy of the Packaging Bureau.

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Great Lakes Newspaper Mechanical Conference Organized in Cleveland

AT an enthusiastic meeting of mechanical and production executives from the three states of Indiana, Michigan and Ohio, the Great Lakes Newspaper Mechanical Conference was organized on Tuesday, June 13, at Hotel Statler, in Cleveland. The meeting was attended by approximately 90 executives, some of whom were visitors from the neighboring states of Kentucky, West Virginia and Pennsylvania, who came along just to see how such things are conducted.

New Board of Directors, Great Lakes Newspaper Mechanical Conference. Left to right, they are: Levi P. White, Port Huron (Mich.) *Times-Herald*, Director; Oscar Gneuhs, Cleveland *News*, Director; Horace Parker, Richmond (Ind.) *Palladium-Item*, Director; George H. Fuller, Cleveland *Press*, President; A. P. (Al) Oberg, Flint (Mich.) *Journal*, Secretary-Treasurer; Lester Yeager, Indianapolis *Star*, Vice President; Roy English, Detroit *News*, Director; Frank Duncan, Portsmouth (O.) *Times*, Director.

The following officers were elected: President, George H. Fuller, Stereotype Supt., Cleveland *Press*; Vice President, Lester Yeager, Production Manager, Indianapolis *News*; Secretary-Treasurer, A. P. (Al) Oberg, Composing Room Supt., the Flint (Mich.) *Journal*. The following men, who with the foregoing will serve on the Board of Directors, were elected: Levi P. White, Stereotype Foreman, Port Huron (Mich.) *Times-Herald*; Oscar Gneuhs, Mailing Foreman, Cleveland *News*; Horace Parker, Pressroom-Stereo Foreman, Richmond (Ind.) *Palladium-Item*; Roy English, Photo-engraving Supt., the Detroit *News*; and Frank Duncan, Mechanical Superintendent, Portsmouth (O.) *Times*. An additional director to represent the plant maintenance men from the state of Indiana will be selected by the Directors to complete the board personnel.

The first conference will be held in Cleveland at Hotel Cleveland. The tentative dates selected are Monday and Tuesday, October 8 and 9.

(*Continued on Page 44*)

Pot Lever Eyebolt—*Its adjustment and maintenance on Intertype and Linotype composing machines — Bulky machine assembly engineered for fine mechanical operation*

By STAFF WRITER

PRINTING EQUIPMENT ENGINEER has been requested to publish an article about the function, removal, replacement and adjustment of the pot lever and eyebolt assembly on Intertype and Linotype machines. In many instances, lubrication and correct adjustment of the pot lever and eyebolt are neglected. Then trouble occurs with back metal squirts caused by broken pot cam roll anti-friction rolls or broken or lifeless pot lever springs. Trouble continues until by dint of much sweaty endeavor and loss of time the faulty condition is corrected.

Comment has been made that the entire pot lever assembly is a cumbersome device. While it is true that it is heavy, yet a little study of the pot, pot lever and its moving means will show that it is a finely balanced mechanism. Its duties are performed with extremely smooth movements. When properly adjusted and lubricated, the movements of the pot are quiet. An exception to the quiet operation of the metal pot can occur when the driving shaft pinion teeth are worn. In this case, there will be two distinct "knocks" at the time the shoes on the pot cam compress the pot lever. The worn condition of the driving pinion teeth permits space between the teeth of the driving gear and the pinion teeth and is called "back lash".

Purpose of Pot Lever and Eyebolt Assembly

The purpose of the pot lever and eyebolt assembly is to provide a frictionless means of advancing the metal pot mouthpiece against the mold. At the same time, through the pot lever eyebolt spring, a means is provided for locking the metal pot mouthpiece against the mold with resilient pressure. This spring eliminates the "metallic shock" which would occur were it not employed. The use of the spring also provides a safety factor to prevent breakage or damage to machine parts in case a perverse operator insists or forgets to throw back the two-line letter attachment or "flopper" when about to cast a black-face or italic matrix line. This occurs occasionally even though a safety device is provided to prevent doing that very thing.

The discussion in this article is based upon the assumption that the pot leg adjusting screws are turned up properly to maintain correct relationship of the pot crucible mouthpiece with the mold; that the pot leg bushings have been oiled, are not dry or rusty enough to have seized the supporting shaft, and that the pot cam long and short shoes are not too badly worn after a long period of use. In short, the specific adjustments given are based on a new machine with new and unworn cams and casting mechanism.

While the pot lever and its component parts do not need as much maintenance attention as various other parts of the machine, yet it is imperative that special maintenance attention be given to the pot lever at six month intervals. The pot lever is one of the most important machine parts. If not properly conditioned, production ceases or at least considerable production time may be lost because of its faulty condition.

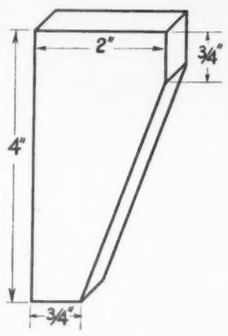


Fig. 1.—Diagram showing measurement of temporary wood supporting wedge for the metal pot. This wedge can be used to take the weight of the metal pot from the pot cam during (1) Removal and replacement of the pot lever assembly; (2) Removal and replacement of the pot lever cam roll assembly, or for (3) Removal and replacement of the pot lever eyebolt assembly. It is slipped between the left-hand pot lever bearing and the pot pump plunger lever cam roll.

Removing the Pot Lever

In several cases that have come to the writer's attention, inquiry brought the information that the machinist or machinist-operator was "afraid" to remove or adjust the lever. It was "buried" in the machine and couldn't be gotten out except at the risk of burns. In one case, the fellow just didn't have time to do things to the machine because he was expected to devote all his time to operating the keyboard.

As is the case with anything else, removal of the pot lever assembly is a simple matter when you know how. We repeat, the pot lever should be removed at not less than six-month intervals for inspection and lubrication of the cam roll.

The first thing to do before pot lever removal is to provide yourself with a wedge shaped block cut from wood cut mounting base (or any similar material), as shown in Fig. 1.

This block is to be inserted between the pot lever inside lug bearing extending

Tells About Alloy-Faced, Stainless-Steel-Base Offset Plate Which Will Yield Up To Million Impressions

IN speaking before the Lithographers National Association Conference in Chicago, May 1944, Ernest Jones of the Graphic Arts Corporation of Ohio, discussed a new offset printing plate which platemakers will furnish to the trade commencing in the postwar period. He asserted that the plate has been carefully tested. It consists of a stainless steel base faced with a new alloy metal. He stated the lithographer will be able to get from 500,000 to 1,000,000 impressions from one press plate.

According to Mr. Jones, it will be actually easier to produce than present zinc or aluminum plates. The plate will be made in any size up to 64 in. wide and in any length.

When put upon the press, no acid will be required in the fountain solution, nothing but a very small amount of clear water being required. "In time, it may even be possible," he said, "to operate the press upon which one of these plates has been mounted so that the dampeners will be run about every so many revolutions or something of that kind."

The grinding of the plate will not be done mechanically. It will be done electrolytically to get away from the old type ball grain and the various difficulties that have been troubling the industry due to grains being too deep or too coarse. The electrolytic graining of the new plate will take from 3 min. to 20 min. and the operation will be controlled entirely by the amount of current passing through the plate.

Due to the war program, a new sheet metal mill has been constructed by one of the big steel corporations that will handle this 64 in. or 66 in. piece of metal. The plate will be ready for production as soon as strategic metals are released for the lithographic industry.

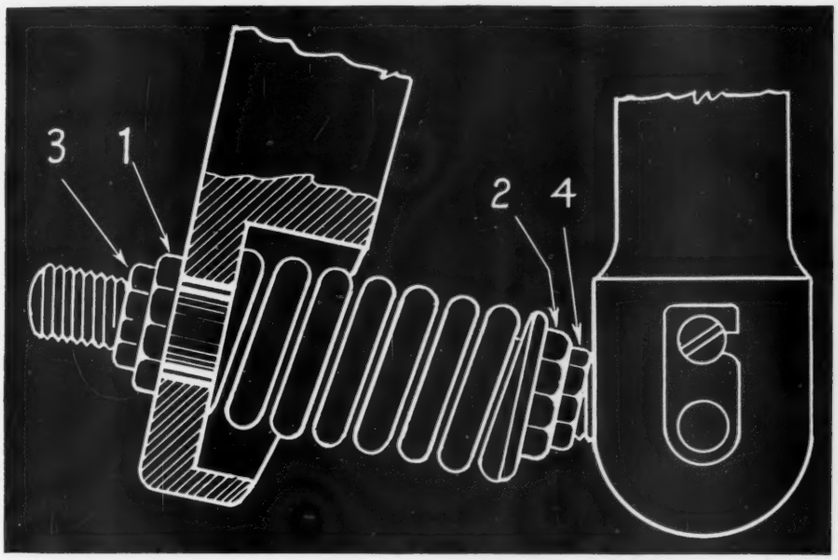


Fig. 2.—This diagram is representative of the Linotype pot lever eyebolt assembly, viewed from underneath the mold gear arm at the left side of the machine.

Sometimes, in the case of a machine which has been in use for a long time, it will be found that the length of the eyebolt sleeve may have been altered. In this case it will be difficult to obtain proper adjustment of the spring for 3/16 in. compression by means of nuts *1* and *2*. If you are adjusting the eyebolt nuts for the first time, it may be just as well to check the length of the sleeve against which the adjusting nuts normally are turned to. The sleeve should be 1 13/64 in. long. When a machine comes from the factory, the sleeve is pinned to the eyebolt in fixed position. When the eyebolt spring is new its length should be 2 3/8 in. After long use, its length will be shortened, due to "spring set".

When a Linotype is assembled at the factory according to Linotype engineers, the pressure exerted by the mouthpiece against the mold is approx. 900 lbs.

Before attempting to explain adjustment of the pot lever eyebolt spring shown in this drawing, it might be just as well to state that adjustment of the nuts *1* and *2* is dependent upon proper adjustment of all pot bearings, that all parts are in good condition and properly lubricated.

First, the pot leg adjusting screws should be brought up into firm contact with the leg bushings, the bushings should be well lubricated and free from rust; the shaft at the upper end of the pot lever likewise must be well lubricated and free from binding rust; the anti-friction rolls and bearing pin inside the pot lever cam roll must be in good condition and lubricated; after long use, the pot lever eyebolt spring may crack or become set. In the latter case, its length will be shortened considerably. When this condition is present in the spring, proper adjustment of the eyebolt nuts cannot be obtained.

Assuming that the adjustments of the pot legs and the lubrication and condition of the various component parts are as outlined above, it is an extremely easy matter to make the pot lever eyebolt spring adjustment by means of nuts *1* and *2*.

This is accomplished as follows: Disconnect the pot pump plunger pin to avoid possible metal squirt. Operate the machine idle (*i.e.*, without matrix line). When the pot mouthpiece is locked against the mold in casting position, note whether there is 3/16 in. space between the back surface of the pot lever and the adjusting nut *1*.

If the machine is fairly new and in good condition, the nut *1* (which carries a collar or pilot) should be screwed up tightly against the short length of pipe or sleeve which originally is pinned by the manufacturer to the eyebolt with two pins. This sleeve is put on the eyebolt to prevent misadjustment. Another way to look at the function of nut *1* is to think of it as the compression nut, *i.e.*, its movement inwardly or outwardly along the threaded back portion of the eyebolt will determine the amount of compression in the spring during lockup of the metal pot mouthpiece against the mold.

Turn up nut *1* tightly against the back end of the sleeve on the eyebolt. Adjust nut *2* until the tension in the spring is sufficient so that the compression of the pot lever against the spring during casting lockup is approx. 3/16 in. The front nut *2* can be thought of as the one that supplies tension to the spring. The more the nut *2* is turned against the spring the greater will be the tension exerted by the spring during lockup. After adjustment, tighten check nuts *3* and *4* against adjusting nuts *1* and *2*.

Now, if the machine has been used a long time, the pot leg bearings may not be in the same original relationship to the pot lever shaft bearings as when the machine was first installed. In such cases, the eyebolt sleeve (being pinned in a fixed position on the eyebolt) may prevent proper adjustment of nuts *1* and *2* for correct compression of the lever and tension in the spring during lockup of the pot mouthpiece against the mold.

When the condition described above is present, it may be necessary to drive out the pins from the sleeve which hold it in fixed position on the eyebolt. Return the sleeve to the eyebolt and let it float. The sleeve when new measures approx. 1 13/64 in. in length. Using a steel scale, check this length measurement. This is important because someone may have cut off some of the sleeve before you took charge of the machine. Never attempt adjustment of the nuts *1* and *2* without having the sleeve on the eyebolt, either pinned or unpinned.

Before returning the eyebolt assembly to the machine, check the length of the pot lever spring. When new, this length is 2 3/8 in. If its length has been reduced very much through "set", discard the old spring and apply a new one. The reason is obvious.

When turning the machine over idle under power, adjustment of the front and back nuts can be made gradually, starting with nut *1* approximately in the same position as before the pins in the sleeve were removed. After proper 3/16 in. compression of the pot lever during lockup has been obtained, tighten nuts *1* and *2* against the sleeve itself.

from the upper part of the pot jacket and the pot pump lever cam roll. Pull the pot forward by hand or pry it forward with a long screwdriver until the block can be inserted. Then let the weight of the pot rest against the wooden block. The idea is to transfer the weight of the pot to the wedge block from the pot lever cam roll. Now jerk out the pot balancing spring and cap to disengage the spring cap from the lower end of the pot lever. Next, disengage and remove the pot lever eyebolt hinge pin from the lug at the lower back part of the pot jacket.

The succeeding operation is to loosen the pot lever shaft set screw to free the shaft. At this point a canvas work glove can be worn since the pot lever may be uncomfortably warm to the left hand while supporting the weight of the pot lever after the shaft has been withdrawn. To withdraw the shaft, insert a screwdriver or pin punch in the hole in the end of the shaft. While doing this, support the lever from underneath the mold gear arm with the left hand. The pot lever may now be lowered and removed.

The only difference between Intertype and Linotype lever removal at this point is that on the Intertype it will be necessary to loosen and remove (W-811) pot lever shaft stud from the pot lever shaft itself. This screw stud is employed to hold the pot lever hub in a permanent position sidewise on the shaft. Adjust the lever hub to position the pot lever sidewise to insure that the cam roll will ride centrally on the pot cam.

In the case of the Linotype, the position sidewise of the pot lever is regulated by a number of spacing washers on the pot lever shaft. Place washers at either side of the hub so the pot lever cam roll will ride centrally and fully on the pot cam. When the Linotype pot lever shaft is withdrawn to free the lever, just let the right-hand side washers on the shaft drop where they will. They can be picked up easily. Withdraw the shaft only a sufficient amount to disengage the lever from the shaft so as to leave the left-hand washers supported by the shaft. Perhaps it is a good idea, in the case of the Linotype, to note whether or not the pot lever cam roll is riding the pot cam fully and just how many washers there are at each side of the pot lever hub before removing the lever itself. This will save some extra work when restoring the lever to the machine. In this way, you will know how many washers to apply to each side of the pot lever hub.

Putting the Lever in Condition

Take the lever to the work bench. It will be noticed that the assembled lever and eyebolt have been removed as a unit. Hence, if the lever is restored to the machine, the pot lever eyebolt spring adjustment will be exactly like it was previous to removal of the lever, if the position of the eyebolt front nuts are not disturbed.

While the pot lever is off the machine there are several things which need attention as follows: (1) Remove the pot cam roll and disassemble the anti-friction rolls and retaining washers; if Intertype, wash both the pot pump and pot

cam wiper parts; (2) Wash all parts in any suitable liquid such as kerosene or clear gasoline and dry them; (3) Clean any obstructions from the pot lever hub oil holes and in addition from the stud slot (if Intertype); (4) If the pot lever shaft is rusted, clean both the shaft and inside of the shaft bearing in the lever with abrasive cloth; (5) Inspect the pot return cam shoe screws to see that they are tight; (6) Examine the interior bearing surface of the pot cam roll to see that it is not crazed or scored to such an extent that it will set up friction against the anti-friction rolls; (7) Examine the anti-friction rolls to see that none are crazed or broken and replace the defective ones; (8) Examine the pot cam roll pin to see that its bearing surface is not crazed or scored; (9) Examine the eyebolt spring to see that it is not cracked or has not become "set" or too compressed in length; (10) Examine the anti-friction roll retaining washers for condition, or as in the case of the Linotype, the anti-friction rolls which are contained within a cage.

After all the parts have been inspected and the defective ones have been replaced, pack the cam roll with grease by laying the roll down on the bench. Insert a retaining washer. Put grease in the cam roll bearing opening. Stand the roll pin end up in the center. Insert the anti-friction rolls until all nine rolls have been restored. Then apply the other grease retaining washer. Remove excess grease squeezed out when the washer is applied. Return the cam roll to position in its bearing in the pot lever.

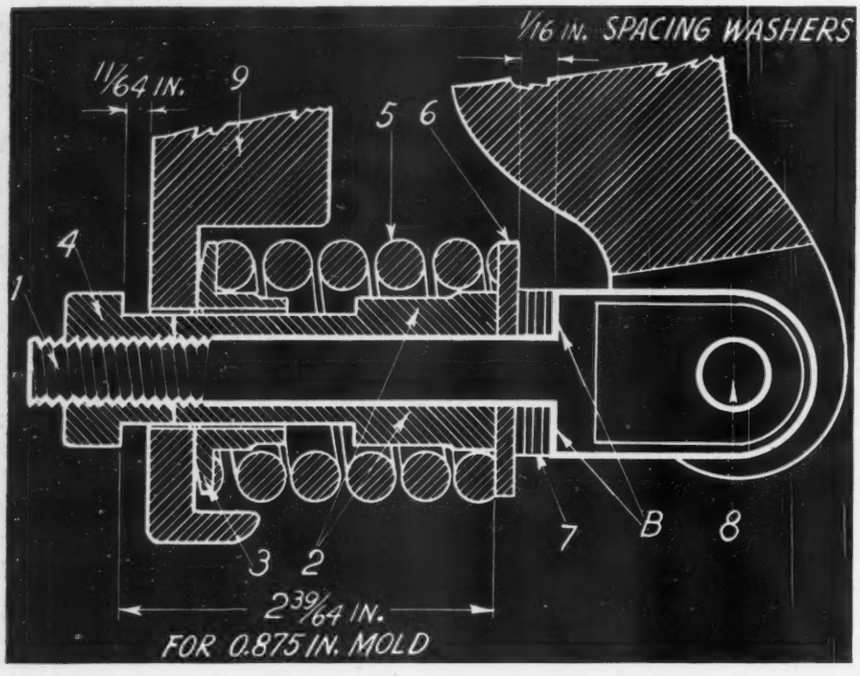


Fig. 3.—Diagrammatic and cross-section view of Intertype pot lever eyebolt assembly, under 11/64 in. compression during casting lockup. So the one inspecting the parts may have some idea of their proper length, it is well to state that spring *5* when new is 2 5/16 in. long. As a matter of information, Intertype engineers have determined the casting lockup pressure of the mouthpiece against the mold is approx. 1200 lbs. The matrix aligning pressure (*i.e.*, pressure exerted by the first pot cam shoe) is approx. 1300 lbs.

Upon inspecting this diagram it will be noticed that the pot lever eyebolt sleeve *2* has been modified in shape so that it now carries a shoulder. Recently, a new collar *3* has been added to the assembly. The new sleeve *2* makes it impossible for misalignment to form a ledge which might catch or bind at the edge of the hole in the pot lever itself. The collar *3* is self-aligning to insure free movement of the spring *5* without cramping.

When the nut *4* on the eyebolt *1* is tightened against the sleeve *2* and the washers *6* and *7*, the eyebolt assembly becomes a fixed assembly, and the distance between the eyebolt washer *6* and the shoulder of the nut *4* is 2 39/64 in.

It will be noticed that a number of spacing washers *7* are placed between eyebolt washer *6* and the shoulder of eyebolt *1* at *B*. These washers are 1/16 in. thick each. The number of washers varies with the different mold heights on Intertypes for domestic and foreign requirements. In the usual American machine, the mold body is 0.875 in. thick and therefore four of the 1/16 in. spacing washers *7* are placed on the eyebolt to obtain proper pressure of the pot mouthpiece against the mold during compression and casting lockup.

In any case, with respect to the different mold body thicknesses, sufficient washers *7* are inserted behind the eyebolt washer *6* to make the distance between the shoulder of the nut *4* and the pot lever *9* as close to 11/64 in. as possible when the pot is locked up against the mold for casting.

The 11/64 in. dimension, state Intertype engineers, is important. In addition to putting the proper pressure into the spring *5* during lockup of the pot mouthpiece against the mold, the 11/64 in. dimension also controls the proper time the pot shall recede from the mold after the cast has been completed.

The accompanying table indicates approximate number of 1/16 inch spacing washers to be used with various mold heights. It may be necessary to add or remove one washer to obtain the 11/64 inch space between the nut *4* and the lever *9* when the pot mouthpiece is locked against the mold in casting position. As shown, four of the washers are used for the usual 0.875 inch mold generally used in America.

Mold Height	Approx. Number Washers
0.843 inch	6
0.853 inch	5
0.875 inch	4
0.885 inch	3
0.891 inch	3
0.935 inch	1
0.967 inch	Remove metal from "B" if necessary

Returning Lever to Machine

Having reassembled the component parts to the pot lever, the lever is now ready to be returned to the machine. Pass the lever upwardly from underneath the metal pot. While supporting the lever with the left hand, push the lever shaft inwardly enough to support the lever.

If the machine is a Linotype, see that the right number of spacing washers are in position on the shaft (the side nearest to you), to cause the roll to ride centrally on the pot cam. Stick the spacing washers for the right side together with heavy grease so they may be handled as one washer. After the shaft has been partially pushed through the lever bearing, insert the washers in the gap between the right side of the pot lever hub and the right pot lever lug. Then push the shaft in and tighten the set screw. Insert the wing pin to fasten the front end of the eyebolt. The balancing spring and cap may now be snapped back into engagement with the lever. Remove the temporary wooden pot supporting block.

In the case of the Intertype, after the eyebolt wing pin and the balancing spring have been restored to position, restore (W-811) pot lever shaft stud. Then check to see that the pot lever hub is in such position on the shaft that the pot cam roll is riding fully on the cam. Now tighten (W-590) pot lever shaft set screw.

Removing Pot Lever Cam Roll Without Removing the Lever

In some cases, it may be necessary to inspect the pot cam roll without removing the entire lever assembly. This may be done by running machine ahead almost to casting position. Then transfer the weight of the pot from the cam roll to the wooden supporting block described in Fig. 1. Loosen the pot cam roll pin set screw to permit pushing the pin to the right. Hold the left hand pro-

tected by a canvas work glove in position so the roll will drop into your gloved hand when released by the pin. After cleaning, replace defective roll parts and repack with stiff graphite grease as outlined previously. The grease will hold the anti-friction rolls and retaining washers in position until the roll pin has been inserted. Before replacing the roll, recover the pin and insert it from the left side (the side nearest to you).

Removing Pot Lever Spring Without Removing the Lever

If it is necessary to replace the pot lever eyebolt spring, run machine ahead until first elevator rests upon the vise cap. Simply tilt the pot forward sufficiently by hand to permit placing the wedge-shaped wooden block as described in Fig. 1. Remove the pot balancing spring and spring cap. Remove the eyebolt back adjusting nut or nuts from rear of the pot lever. Loosen screw and remove the wing pin which fastens the eyebolt eye to the pot jacket lugs. The eyebolt can now be removed for replacement of the spring.

Better Printing on minds of newspaper executives at Cleveland ANPA Mechanical Conference — Preview of tomorrow's newspaper

By MacD. SINCLAIR

ONE of the most important technical meetings in the entire 17 year history of the ANPA Mechanical Conference occurred at Hotel Statler, Cleveland, Monday, Tuesday and Wednesday, June 12, 13 and 14. Approximately 750 persons were registered. Before the Conference adjourned, A. H. Burns, Chairman of the Mechanical Committee, stated the next Conference would be held in Chicago.

High note of the conference showed a peculiar situation with respect to newspaper printing technique. War conditions undoubtedly compel newspapers to print an inferior product. At the same time, a thread of protest against the tearing down of quality printing in the scramble to meet the demands for newsprint conservation was threaded throughout the entire meeting. A number of executives seemed apprehensive that all of the things which had been introduced in the past 15 years for improving newspaper printing would be lost permanently. Some of the things inimical to better printing which have been adopted recently in the name of newsprint conservation, are not necessary to newsprint conservation.

The cheerful note, also threaded throughout the entire conference, was the preview of the technology to come after the war. In this way, newspaper printing will be improved thereby better enabling publishers to meet radio and magazine encroachments.

Outstanding among the things which seemed to have approval of the entire conference were cessation of typographical deformation, reasonable shrinkage in stereo mats instead of increased shrinkage, direct pressure stereotype mat molding, approval of extended use of color in after-the-war newspapers, return to 32 lb. newsprint as soon as possible. The proposed co-operative research by the ANPA was discussed informally in offside conversations with approval.

The conference was opened by A. H. Burns, Chairman of the ANPA Mechanical Committee. Mr. Burns introduced Frank J. Lausche, Mayor of Cleveland, who extended a welcome to visiting newspaper mechanical executives. Next Chairman Burns introduced Linwood I. Noyes, President of the American Newspaper Publishers Association, stating that this was the second time in the 17 years the conferences have been held that the conference has been honored by the president of the publishers association.

Fell Explains WPB Thinking About Equipment Requests

After the opening ceremonies had been concluded, Leon A. Link, fellow member of WPB's Printing and Publishing Division, introduced David B. Fell, Chief of the Printing Machinery Section. Mr. Fell presented an interesting and detailed explanation of the standards under which the Printing and Publishing Division's Machinery Section operates to fill applications made out on Form 1319 under Order L-226 for replacement equipment. He explained the difference between replacement and expansion of plant equipment. Replacement is the act of putting something back in place of another item. It is based on the fact that the item to be replaced is worn out, broken down, worn to the point of repeated breakdowns, and it is beyond repair.

The opposite of replacement is expansion—enlarging and branching out. Expansion includes requests for "standbys," for "spares," and for modernization and improvement without compensating benefit to the war effort. Ever since its beginning, WPB has favored re-

All of the ANPA Mechanical Committee personnel were present when this picture was taken at Hotel Statler, Cleveland, during the 1944 Mechanical Conference with the exception of John J. Shea, General Mechanical Superintendent of Hearst Newspapers, New York. Left to right, they are: John A. Burke, Production Manager, Gannett Newspapers; Edwin H. Evers, Production Manager, St. Louis *Globe-Democrat*; Leslie J. Griner, Mechanical Superintendent, Chicago *Sun*; Maurice A. Hagan, Photo-engraving Superintendent, Philadelphia *Inquirer*; John L. Blake, Vice President, Scripps-Howard Supply Co., New York; Committee Chairman A. H. Burns, Mechanical Superintendent, New York *Herald Tribune*; Worth Coutney, Vice President and General Manager, Toledo (O.) *Blade*; Linwood I. Noyes, Publisher, Ironwood (Mich.) *Globe*, who is also president of ANPA; John W. Park, Production Manager, Chicago *Tribune*; Walter E. Wines, Manager, ANPA Mechanical Department; Charles H. Ruth, Superintendent, Washington (D.C.) *Star*; T. A. Corcoran, Purchasing Agent, Louisville (Ky.) *Courier-Journal* and *Times*.

placements and disapproved expansions. As a rule, there were ample facilities for producing many civilian goods and WPB did not favor needless duplication of facilities. "Nor," said he, "did we have any blind reverence for the 'status quo', but we shall try to keep industry on an equal basis in order that no individual firm will be in a position to gain an advantage over its competitors."

"Nearly every replacement is to some extent improvement and expansion. If a modern machine in your plant is destroyed by fire, to replace it with an identical model would be replacement. But most equipment transactions involve definite improvements. These improvements may really be the incentive for making the change. It would be a hardship to say to an applicant that he must replace his 30 year old machine with one just like it.

Mr. Fell enumerated a number of expansionary replacements, among which are the following: A power paper cutter to replace a hand lever cutter; a power mitering machine to replace a hand miterer; a saw trimmer to replace a hand lead and rule cutter. As a rule, applications for replacements of this nature must be denied. He said "We cannot provide enough new power-driven machines to meet the demand. Unless there is a special urgency for war work, we feel that those plants which went along with the earlier style equipment before the war must continue to do so until materials and manpower permit more general manufacture of such items."

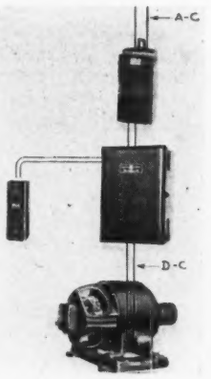
Other grounds for equipment denials are cases in which the old equipment can be repaired; cases in which the applicant has taken contracts beyond his present capacity; cases where there is likelihood that by approving the present application several other requests for additional equipment will follow; cases, which if granted, would obligate other sections of WPB to provide more paper, more chemicals, building alterations, etc. "In the last two cases," said Mr. Fell, "you are classed as getting the buttons for the overcoat. You get the buttons and then claim we ought to let you have the overcoat."

The speaker discussed essentiality and the manpower situation with respect to granting requests to purchase equipment.

"When we inquire into essentiality," he continued, "we are in an especially delicate position. For we may trespass upon the freedom of the press. Essentiality is relative and is measured by the end product—functional printing compared with promotional; direct military and Government printing office sub-contract work contrasted with general civilian work." He asserted that just as the essentiality of the product is relative, so too is the essentiality of some kinds of machines compared with others.

Applications of Electronics to Printing

F. W. McChesney, assistant manager of the industrial manufacturing department, General Electric Co., next addressed the meeting with the aid of a series of slides and a demonstration set consisting of a Thymotrol Drive and motor fitted with lead brake arrangement. The title of his discussion was *Application of Electronics to Printing.*



Here is shown the assembly for GE's Thymotrol Drive. Maximum size motor at present time is 25 h.p. The Thyratron control takes a.c. current from the line and rectifies it to d.c. to operate a d.c. motor. A Pliotron amplifier checks the motor speed and tells the Thyratrons how much d.c. is required to hold the motor speed constant.

He explained the purposes and functions of electronic tubes for applications in printing machinery. He demonstrated the Thymotrol drive. In this drive, Thyratron tubes take the power from a.c. lines and rectify them into d.c. to operate a direct current motor at speeds ranging from 8 or 10 to 1. A Pliotron amplifier checks the motor speed and tells the Thyratrons how much d.c. is required to hold the speed constant, in spite of change in load and other factors.[1]

Mr. McChesney stated that present maximum motor size to which the Thymotrol drive is applicable is 25 h.p., but upon being asked a question stated it might be possible in the future to provide Thymotrol drive for motors up to and including 35 to 40 h.p.

Of principal interest to newspaper mechanical executives was Mr. McChesney's discussion relative to the photoelectric color control used on the rotogravure presses of the Philadelphia *Inquirer* for the past five years. He stated the *Inquirer* secured 24 technically correct copies out of each 25 that are printed in four colors. The GE electronic color control functions to detect misregister in color and also corrects the misregister automatically.

Composing Room Session

Freund Discusses Future Line-Composing Machine

THE Composing Room Session Monday afternoon, June 12, was presided over by John A. Burke, Production Manager of Gannett Newspapers, Rochester, N. Y., Production Manager Edw. H. Evers, St. Louis *Post-Dispatch*, served

[1]See description of the Thymotrol Drive, pages 10 and 11, July 1943 issue of Printing Equipment Engineer, article entitled Electronics—What It Is and What It Means to the Printing Industry.

A Page of Pictures, showing some of those who attended the ANPA Mechanical Conference at Hotel Statler, Cleveland, June 12 to 14.

1—Victor E. Fishburn, Vice President, Burgess Cellulose Co.; Raymond A. Bowles, Mechanical Superintendent, Columbus (Ga.) *Ledger-Enquirer.*

2—Luther Wright, Mechanical Superintendent, New Orleans *Item*; Ellis Speer, Composing Room Superintendent, Raleigh (N.C.) *News and Observer*; E. M. Satterthwaite, Vice President, Peerless Printing Ink Co., Philadelphia.

3—Ralph Robuck, Representative and A. T. Mann, jr., Vice President, Intertype Corporation; Boyce Brogdon, Composing Room Superintendent, Memphis (Tenn.) *Press-Scimitar.*

4—Charles Frederickson, Mechanical Superintendent, Westchester County Publishers, Yonkers, N. Y.; Edmund Goodrich, Mechanical Superintendent, New York *Post*; Gene Doyle, Mechanical Superintendent, Toledo (O.) *Blade*; C. M. Lougee, The Morley Mat Co., Portsmouth, N. H.

5—C. E. Woodward, Production Manager, Detroit *Free Press*; Frank L. Kreutz, Representative, Metals Refining Co.; LeRoy Church, Mechanical Superintendent, Akron (O.) *Beacon-Journal.*

6—J. R. Minyard, Mechanical Superintendent, Ft. Worth (Tex.) *Press*; S. R. Sheldon, Financial Editor, Cleveland *Press*; H. L. Higgins, Composing Room Superintendent, Detroit *News.*

7—William F. Grenier, New England Newspaper Supply; Miss New England, (she decorated the boys with carnations); "Scotty" Campbell, New England Newspaper Supply.

8—Edgar A. Mills, jr., Eastern Newspaper Supply; William Duboc, Sales Manager, Hamilton Mfg. Co.; H. W. Barrow, Stereotype Supt., Indianapolis (Ind.) *Times*; George Morrison, President, Milwaukee Saw Trimmer Corp.

9—R. E. Wallace, (Research) Toronto (Ont.) *Star*; I. Tornberg, Vice President, Wood Newspaper Machinery Corporation; J. S. Atkinson, Production Manager, and T. R. Sykes (Research), Toronto (Ont.) *Star.*

10—Walter Morey, Teletypesetter Corporation; Louis W. Woelfel, Mechanical Superintendent, and J. Klein, Photo-engraving Superintendent, Buffalo (N.Y.) *Evening News.*

11—F. A. Kopp, Wood Newspaper Machinery Corp.; Gerald Hunter, Matrix Contrast Corp.; A. B. Bedell, Mergenthaler Linotype Co.

12—W. H. Brandes, California Ink Co., San Francisco; Lieut. Robert M. Hawkins, Ft. Bragg, N. C.; Ray Finzer and Charles Scherb, Wood Flong Corporation, New York.

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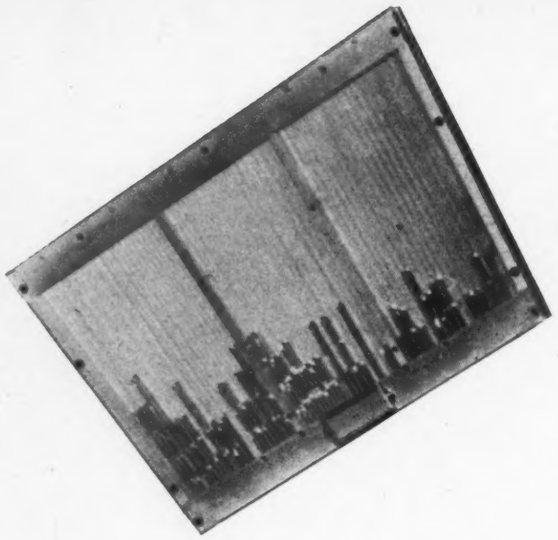


View of split magazine for Intertype exhibited by Chief Engineer Herman Freund at Composing Room Session, ANPA Mechanical Conference, Hotel Statler, Cleveland, June 12. The top plate is fabricated from Plexiglass, an acrylic plastic. The property of "see-through-ability" of the Plexiglass top caught the imagination of newspaper executives. "The channel grooving, drilling and tapping operations in making the top plate," stated Mr. Freund, "are done as easily as on metal sheets. A magazine of this kind gives the operator and the machinist an instant check of the matrices in any channel."

as co-chairmen. H. R. Freund, Chief Engineer of Intertype Corporation was first introduced. He spoke upon the subject: *Metals, Materials and Processes Affecting Future of Typesetting Machines.*

At the outset, Mr. Freund stated he would indulge in a little "imagineering" in visualizing the typesetting machine of the future. Starting with cast iron, which is the most common of all materials used in building machinery, he mentioned Meehanite as being a suitable material for casting cams, mold disks, metal pots and levers in instances where resistance to wear and distortion, uniformity of structure and high tensile strength are important factors. The tensile and yield strengths of Meehanite have been increased about 60% and the compression strength about 50%.

With respect to development of alloyed steels and heat-treating methods, he mentioned a late method for subjecting precision machine parts made from these steels to a cold-treating application. Formerly, such parts were seasoned by allowing them to age over a long period of time, sometimes years, to prevent distortion and growth after finishing. The latest method is to subject these parts to a sub-zero treatment. This cuts down to a matter of hours what formerly took months and years to accomplish.

Warped Molds Will Be Thing of the Past

Mr. Freund stated: "Commercial processes have been developed which completely stabilize a piece of steel in about 48 hours. This is done by hardening and quenching in the usual way and then chilling to minus 120 deg. F. The tempering of the parts is done after the freezing process."

An encouraging note for composing room executives and machinists was struck when Mr. Freund stated: "This new treatment promises to eliminate the nuisance and delay a warped mold or trimming knife can cause and I don't think I need to mention what this will mean to you."

Briefly, the speaker referred to powder metallurgy—the method of fabrication for making bearings and many varieties of the smaller machine parts. The metallurgist can now "build" alloys in endless conglomerations of structures and constituents and form them into almost any shape desired.

He visualized that many of the larger machine parts, particularly those which make up the superstructure of the future typesetting machine, will be made of light metals such as magnesium and aluminum. He warned, however, that all parts made of aluminum must be made corrosion-resistant by anodizing. Unless magazine plates made of aluminum are also made corrosion-resistant by anodizing, they will soon become sticky and inoperative.

Magnesium (which is ⅓ less in weight than aluminum) can be made as non-corrosive and abrasion - resistant as aluminum by means of a recently discovered anodic film.

No Substitute for Brass

According to the speaker, there appears to be no real substitute for brass for making matrices. No material has the toughness and the wear-resisting qualities, coupled with the machinability of brass.

Plastics In Composing Machines

Mr. Freund referred to plastics, the so-called "glamour boy" of fabricating materials. "Of all the various classifications of plastics," said he, "from the bakelites to the synthetic resins, the acrylic plastics are the most fascinating.

"These are better known under the trade names of Lucite and Plexiglas. Their colorless transparency, resistance to weathering and aging and chemical reactions, make these synthetic resins particularly adaptable where the property of "see-through-ability", combined with durability, is desired. They are more transparent than optical glass; they can be used to conduct light and are practically unbreakable."

To illustrate how plastics in sheet form might be used in the future typesetting machine, Mr. Freund exhibited a split magazine, the top plate of which was made of Plexiglas. In manufacturing operations, channel grooving, drilling and tapping are done as easily as on metal sheets. A magazine fitted with Plexiglas top plate gives the operator and machinist a complete and instant check of the matrices in any channel.

He discussed Plexiglas further by stating that it does not absorb water or oil and is highly resistant to wear. It is easy to keep clean and matrices slide freely in the grooves. Plexiglas is one of the hardest of the transparent plastics. Its surface is as hard as copper. It is less than half the weight of aluminum.

Casting Slugs from Plastics

The speaker corroborated the opinion of M. E. Powers, a Chicago engineer, who recently stated that in order to use plastics for "casting" slugs in place of the conventional type metal, the molding mechanism would have to be redesigned. Mr. Freund stated that unless molding equipment is developed which will greatly speed up the molding cycle, plastics cannot be used economically for casting or molding slugs in typesetting machines.

Photo-typesetting

Mr. Freund made comment upon photo-typesetting developments. At present, visions of photo-typesetting machines appear mostly in patent applications, magazine articles and speakers at trade meetings. He quoted some remarks made in a recent address by Hon. A. E. Giegengack, United States Public Printer, part of which are as follows:

Harry L. Gage, Vice President, Mergenthaler Linotype Co.; Clarence Seaman, Vice President, Imperial Type Metal Co.; Jack Kelt, Representative, Mallinckrodt Chemical Works. Mr. Gage discussed *Meeting the Maintenance Problem* at the ANPA Composing Room Session.

"Do the present conventional typesetting methods (as used in offset and gravure—Ed.) fulfill the requirements in quality that these comparatively new and growing processes demand? Probably not. What, therefore, may be the answer toward greater excellence in typesetting, particularly with emphasis on clarity of reproduction? Probably one notable answer may be a new method of photo-composition. Without question, reasonably soon after hostilities have ceased, someone will perfect a camera-typesetting . . . machine . . . Photo-composing, with its quality of clarity in printing, would provide one of the most essential requirements in offset printing and rotogravure. Furthermore, a font of matrices, or whatever served as such, through changes in camera focus, would probably set five, six or seven different type sizes, which in itself, would eliminate duplication of a new font of matrices for each type size used. That spells economy!"

In concluding his remarks about the future typesetting machine, Mr. Freund stated: "Of course, everyone realizes, generally speaking, that machine equipment to be marketed immediately after the war will be more or less pre-Pearl Harbor, and may even remain so for some time thereafter."

Helping To Maintain Existing Composing Machinery

Harry L. Gage, Vice President of Mergenthaler Linotype Co., discussed *Meeting the Maintenance Problem.* He gave a first-hand account of the numerous clinics on the care and maintenance of line-composing machinery in various parts of the country which had been conducted by executives of MLCo. In the past 1½ years, over 130 clinics have been attended by more than 7000 operators, machinists and plant executives. In all of the clinics the following points were emphasized: (1) Cleanliness, (2) Lubrication, and (3) Avoidance of tinkering with machine adjustments. Some 15,000 copies of the 172 page book, *Linotype Maintenance Manual,* have been distributed to users of machines.

Mr. Gage explained that it was the Linotype Company's first thought that the smaller papers mostly would be interested in the clinics. It later developed that while the large plant machinists were well able to take care of their maintenance problems, yet machinists from the larger plants were highly interested in and attended the clinics. He mentioned that the chief linotype machinist of the Government Printing Office and his personnel were so well pleased with the refresher clinics provided for the GPO that he wanted to attend a similar clinic which was scheduled to be held in Baltimore, some 40-odd miles away.

Mr. Gage declared, with particular reference to the superstition about graphite being injurious to the health of those working with it that the "ghost of the graphite menace has been laid forever." Graphite is a pure carbon in most neutral form. It is not injurious to health.[1]

Discussions about the use of cleaning compounds on brass matrices have taken place at the clinics, the general advice being that it is best not to use them. Powdered mica for use in place of graphite for polishing spacebands has been discussed vigorously and it has been demonstrated that mica is it not a true lubricant and will cause trouble both to spacebands and matrices. Discussions about type metal have revealed there are decided differences in handling and remelting metal. At many clinics, much valuable information about proper handling of metal has been given.

[1]Editor's Note—A well known Cleveland medico once stated that graphite is pure carbon and is not absorbable as such into the body. Its structure cannot be changed under 7000 deg. of heat. Of course, the principal objection to working with it is that the worker might consider it "dirty" material. In such amounts as it is used in the printing plant no injurious physical effects whatever ensue.

Gannett Executives and Some Friends Gather for Dinner at ANPA Mechanical Conference, as guests of J. J. Fields of Wm. C. Herrick Ink Co.

Seated, left to right: Earl N. Hughes, Mech. Supt., Utica (N.Y.) *Observer Dispatch;* Walter L. Marks, Stereo Supt., Utica (N.Y.) *Press;* Adam J. Schreiber, Stereo Supt., Rochester (N.Y.) *Times-Union;* J. J. Fields, III, and P. O. Roberts, Wm. C. Herrick Ink Co., Inc.; Virgil Easterday, Head Machinist, Danville (Ill.) *Commercial-News.*

Standing, left to right: John P. O'Hare, Pressroom Supt., Binghamton (N.Y.) *Press;* E. D. Jagereski, Mech. Supt., Albany (N.Y.) *Knickerbocker News;* Ray Finzer, Wood Flong Corp.; E.O.T. Thomas, Pressroom Supt., Rochester (N.Y.) *Democrat & Chronicle;* Martin F. Redmond, Stereo Supt., Hartford (Conn.) *Times;* Geo. R. Leyh, Head Machinist, Utica (N.Y.) *Observer-Dispatch;* Adrian J. Tyler, Composing Room Supt., and B. F. Garrity, Mech. Supt., Hartford (Conn.) *Times;* Roscoe C. Palmer, Stereo Supt., Binghamton (N.Y.) *Press;* Stanley F. Walkuski, Composing Room Supt., Utica (N.Y.) Daily *Press;* John E. Mosher, Pressroom Supt., Rochester (N.Y.) *Times-Union;* Walter Kettle, Head Machinist, Binghamton (N.Y.) *Press.*

Thirteenth from left, standing: John A. Burke, Production Manager, Gannett Newspapers, Rochester, N. Y.; Walter G. Leamon, Stereo Supt., Danville (Ill.) *Commercial-News;* J. B. Mulaney, Financial Editor, Cleveland *News;* Wm. F. Merz, Composing Room Supt., Binghamton (N.Y.) *Press;* Russell C. Towell, Asst. Machinist, Danville (Ill.) *Commercial-News;* Joseph L. Woods, Composing Room Supt., Rochester (N.Y.) *Democrat & Chronicle;* John J. Farrell, Engraving Supt., Binghamton (N.Y.) *Press;* Geo. W. Frank, Mech. Supt., Rochester (N.Y.) *Times-Union;* Joseph Hebbie, Stereo Supt., Rochester (N.Y.) *Democrat & Chronicle;* Thomas F. Gougarty, Production Manager, Dayton (O.) *Journal-Herald.*

This group of newspaper mechanical executives enjoyed a New England dinner (Was it a boiled N. E. dinner?—Ed.) during the ANPA Mechanical Conference held in Cleveland, June 12-13-14. Seated (left to right) are: George Marshall, Mechanical Supt., the Portland (Me.) *Express*; Bernard J. Garrity, Production Manager, Hartford (Conn.) *Times*; Herbert Stanger, Production Manager, *Christian Science Monitor*; Richard M. Fitzgerald, Mechanical Supt., Worcester (Mass.) *Telegram*. Standing (left to right) are: George L. Green, Asst. Gen. Mgr., Providence (R.I.) *Journal*; R. H. Costello, Production Manager, Lewiston (Me.) *Sun*; Pat Doherty, Mechanical Supt., Halifax (N.S.) *Herald Mail*; Chester W. Spooner, Bus. Mgr., Pawtucket (R.I.) *Times*.

J. N. Banks, of Linotype & Machinery, Ltd., London, England, was introduced. He gave a friendly and informal talk upon newspaper publishing conditions in England. He said many composing rooms are operating in sub-basements because of war conditions. News stories have been condensed to minimum length. Today, only two papers are printing more than four pages daily as compared with 24 before the war. He said that during the air raids no London newspapers had missed an edition.

Efficient Stocking and Handling of Supplies Inventory

Bernie F. Garrity, Mechanical Superintendent of the Hartford (Conn.) *Times*, discussed *Maintaining the Supplies Inventory*. He passed among the audience illustrated copies of a three page letter-size folder in which is described a steel cabinet for storing machine parts and composing room supplies. He said that as the result of installing the cabinets he was able to forget he had any parts and supplies problems.

In installing the parts cabinets, Mr. Garrity stated perhaps his organization was fortunate in having a 12 ft. by 24 ft. machine room in which to place the cabinets without encountering a floor space problem.

He described the steel cabinets by saying they were 78 in. high, 34 in. wide and 17¾ in. deep. One type of cabinet was filled with six drawer sections, each having 18 drawers, or a total of 108 drawers in the cabinet. Another cabinet having the same general outside dimensions is fitted with 10 adjustable shelves. Each space between the shelves can be divided into three compartments by means of steel partitions.

Referring to the drawers mentioned above, they are each 15½ in. long, 5 in. wide and 2⅝ in. deep. By inserting partitions, the drawers can be divided into sections as desired to accommodate small parts. One machinist in the *Hartford Times* plant, provided 25 sections in a drawer by cutting off tin cans (flat variety such as smoking tobacco is packed in) to the proper height for screws and other small parts.

At left, Chairman of the ANPA Mechanical Committee A. H. Burns and Walter E. Wines, Manager of the ANPA Mechanical Department, discuss final registration figures—about 750.

In the cabinets the parts are filed by the three main sections of the machine (1) Assembling; (2) Casting and Distributing, and (3) Miscellaneous. Labels on the drawer front identify the parts in the drawer itself. Close watch is kept on the inventory. If a part is running low, the machinist reports the same to his head machinist. At that time the quantity needed, name and number of part are entered on an order blank.

9 Col. Liner Page Precipitates Hearty Discussion

Following Mr. Garrity's discussion regarding machine parts inventory, John A. Burke, Production Manager of the Gannett Newspapers, Rochester, N. Y., explained the Rochester papers' 9 col. liner page after specimen copies had been distributed among executive personnel in the audience. A comparative showing of the old 12 pica, 8 col. page opposite the new 10½ pica, 9 col. page was commented upon. The study of the new and old pages was made and compiled by composing room executives in the Rochester *Times-Union* and the Rochester *Democrat and Chronicle*. The space difference between two pages in column inches is approx. 18 col. in. in favor of the 9 col. page.

Thos. I. Garry, Composing Room Superintendent of the New York *Times*, arose to discuss the *Times*' 9 col. liner page. He asserted that the new page had effected a 22% saving in space. He explained that the saving was arrived at by using Intertype's 5 pt. Regal type on 5 pt. slug body with 2 pt. cutoff rules. Mr. Garry asserted advertisers and editors approved the new style page and are well satisfied with its appearance. He stated a coated stock proof was shown to the editors who thought they actually were reading a larger type face than the old 5½ pt. face used previously.

Edwin H. Evers, Production Manager of the St. Louis *Globe-Democrat*, described that paper's new 9 col. liner page. He said the only complaint received so far had been about the Death Notice department, the names of the deceased being set in capitals did not satisfy those inserting the notices.

Charles J. Hentschell, Production Manager, St. Louis *Post-Dispatch*, described the new liner page instituted in his paper. The 12 pica slugs are indented 2 pts. at each end and the column rules are 1 pt. body.

Leslie J. Griner, Mechanical Superintendent, Chicago *Sun*; John Harm, Mechanical Superintendent, Chicago *Daily News*; J. E. Martin, Production Manager, New York *Sun*, former member of the Mechanical Committee.

Joseph Goggin, The Morley Co., Portsmouth, N. J.; Leland H. Schenck, Production Manager, Topeka (Kas.) *Capital-State Journal*. Mr. Goggin presented a paper at the Stereotype Session of the ANPA Conference upon the subject: *Newspaper Stereotyping and Its Future Possibilities.*

Protest Typographic Changes

During the discussion about 9 col. liner pages and the space savings figures presented by the various speakers, J. Harold Mintun, Production Manager of the Decatur (Ill.) *Herald-Review*, protested that much of the typographic changes which had been put into effect recently made him feel that newspapers are "kicking over" all efforts of readability which had been instituted previously. "Let's not kid ourselves," said he, "we are discarding all the finer things we have done to make the paper easily readable."

Leon A. Link, Production Manager of the Cleveland *Plain Dealer* arose. He said he was speaking now as a printing plant executive and not as a member of the War Production Board. He asserted newspapers are doing things to increase revenue. "The war hysteria is tearing down the things newspapers have spent 15 or 16 years in building up to make a better appearing newspaper. It's not good business nor good sense. How long newspapers will last will be dependent upon the good judgment of their operators. The smart ones will look around to see what improvements competitors, such as the magazines are adopting in wartime.

"If you use all the newsprint tonnage you are allotted you haven't saved anything. There is only one reason for saving paper and that is to save it. If you use up all the newsprint you are allotted and perform abortions on your paper, your product will go down, down, down. To me, the 9 col. classified advertising page looks like a proof of something the printer forgot to finish."

Mr. Link concluded his remarks by asserting: "We should strive to produce a better and more appealing product rather than scheme how to get more revenue into the paper, when only a small part of what comes in remains in the cash drawer anyway."

Chairman Evers remarked that the *Globe-Democrat* had adopted the want ad page condensation page to accommodate customers. He admitted that such actions may be approaching the danger point.

Co-Chairman Burke stated that since adoption of the 9 col. liner page, the advertising in that department had risen 20%.

Some opinion was prevalent that the 9 col. want ad page has been adopted by more than 50 daily newspapers merely as a device to accommodate advertisers and a return to the regular 8 col. page would occur after the war. The consensus of opinion, however, seemed to be against detracting from the readability of the newspaper throughout its entire content.

Stereotype Superintendent George H. Fuller, Cleveland *Press*, holds a light for C. S. Davis of Lake Erie Engineering Corporation.

Stereotype Session

AT the Stereotype Session, held Tuesday morning, June 13, Leslie J. Griner, Mechanical Superintendent of the Chicago *Sun*, presided. The first speaker was Victor E. Fishburn, Vice President of the Burgess Cellulose Co., who presented a paper on *Dry Mat Shrinkage*. The speaker reviewed development of the shrinkage property of the so-called dry mat. It was advocated by some mechanical men that mat manufacturers should refuse to supply mats that would give more than ½ in. shrinkage. "Unfortunately," stated the speaker, "the mat makers, like all manufacturers, are at the mercy of the buyer and must supply what the trade demands."

"In the past year," continued Mr. Fishburn, "there has been a gradual change to . . . ¾ in. shrinkage. More recently, there has been a demand for full 1 in. shrinkage."

Limit to Hydration

The speaker explained the principle of hydration of the mat fibres in the beater at the mill, during which operation water is worked into the fibres. Water of hydration does not leave the fibres freely and must be subjected to considerable heat to remove it. As the hydration increases, the difficulty in removing the water increases. Also, as the hydration is increased, the shrinkage for any given moisture content is increased. "There is definitely a limit to hydration," said he, "so far as mats are concerned."

Mr. Fishburn continued: "Cellulose fibres have a natural affinity for water which we make use of in providing shrinkage in dry mats. Dried fibres will absorb water up to the fibre saturation point. Cellulose fibres used in manufacturing dry mats have a saturation point of about 25%. When higher percentages are present, the water is held mechanically. It is not absorbed by the fibres. As the fibres absorb water, they swell, and in so doing, expand the mat. As they lose moisture, they contract and shrinkage of the mat takes place. Moisture in excess of 25% which is held mechanically will provide some additional shrinkage. For newspaper work, we are primarily concerned with the water which is absorbed by the fibres. It should be obvious that with present materials there is a limit to the moisture a mat can contain and still be worked as a dry mat. For any given mat, as the moisture content

(*Continued on Page 46*)

J. L. Sharp, Stereotype Superintendent, Nashville (Tenn.) *Banner* and *Tennesseean*, and E. N. McGrew, Composing Room Superintendent of Charleston (W.Va.) *Daily Mail*, examine Johnson plastic plates immediately following adjournment of Stereotype Session at ANPA Mechanical Conference, Cleveland, June 13.

EXECUTIVE ¶s

Edward C. Spencer has recently joined Harris-Seybold-Potter as manager of the legal and credit department. Mr. Spencer was graduated in Engineering from the University of Kansas, and holds a degree in Business Administration from Harvard University. He came to Harris from an executive position in the financial department of the Perfex Corporation, Milwaukee, and for six years served as financial assistant to the vice president in charge of the Tractor Division of the Allis-Chalmers Manufacturing Company, Milwaukee.

Edward C. Spencer, manager of HSP's Credit and Legal Dept.

Glen D. Boylan has been named a Vice President of the Meredith Publishing Company according to an announcement just made by Fred Bohen, President of the firm. Mr. Boylan joined Meredith's publishers of *Better Homes & Gardens* and *Successful Farming*, in October, 1925, and advanced rapidly to head of the Methods Department, then Assistant Director of Production, and in June, 1943, was named Assistant to the President and General Manager. In addition to serving as Vice Chairman of the Operating Committee, Boylan directs the divisions of Production, Personnel and Methods, Purchasing and Materials Research. Mr. Boylan is well known to a great many Craftsmen. He was co-chairman of the Plant Management Clinic at the Grand Rapids (Mich.) International Craftsmen's Convention in 1942, with Peter Dennerlein who is Vice President of Crowell-Collier Publishing Co.

Dudley L. Parsons has been elected vice president of William E. Rudge's Sons, public relations printers, it was announced recently by Frederick G. Rudge, president. He will assume the duties of general manager. Mr. Parsons, an alumnus of Massachusetts Institute of Technology and of Columbia University, has been public relations manager of The New York Trust Company and editor of the Bank's quarterly publication, *The Index*, for the past 14 years.

Al Hoerth, who until recently represented J. M. Huber, Inc., in the Ohio-Michigan area, is now sales manager for Kohl & Madden Printing Ink Co., Chicago. Mr. Hoerth has moved his family from Lakewood to Chicago. He is well known in the Chicago area, having lived there a great many years.

Alexander Thomson, jr., vice president and advertising manager of Champion Paper & Fibre Co., Hamilton, Ohio, passed away June 18 at his home in Cincinnati. He was 35 years of age. He had been ill for several months. Mr. Thomson became a field director for the American Red Cross in March 1943 and was assigned to Egypt. While serving the Red Cross he was compelled to return home because of ill health. He was a son of the late Alexander Thomson who died in 1939 and a grandson of Champion's founder, Peter G. Thomson. He was a brother of Logan Thomson, president of the company. His mother is president of Western College, Oxford, O.

Glen D. Boylan recently was made a Vice President of Meredith Publishing Co.

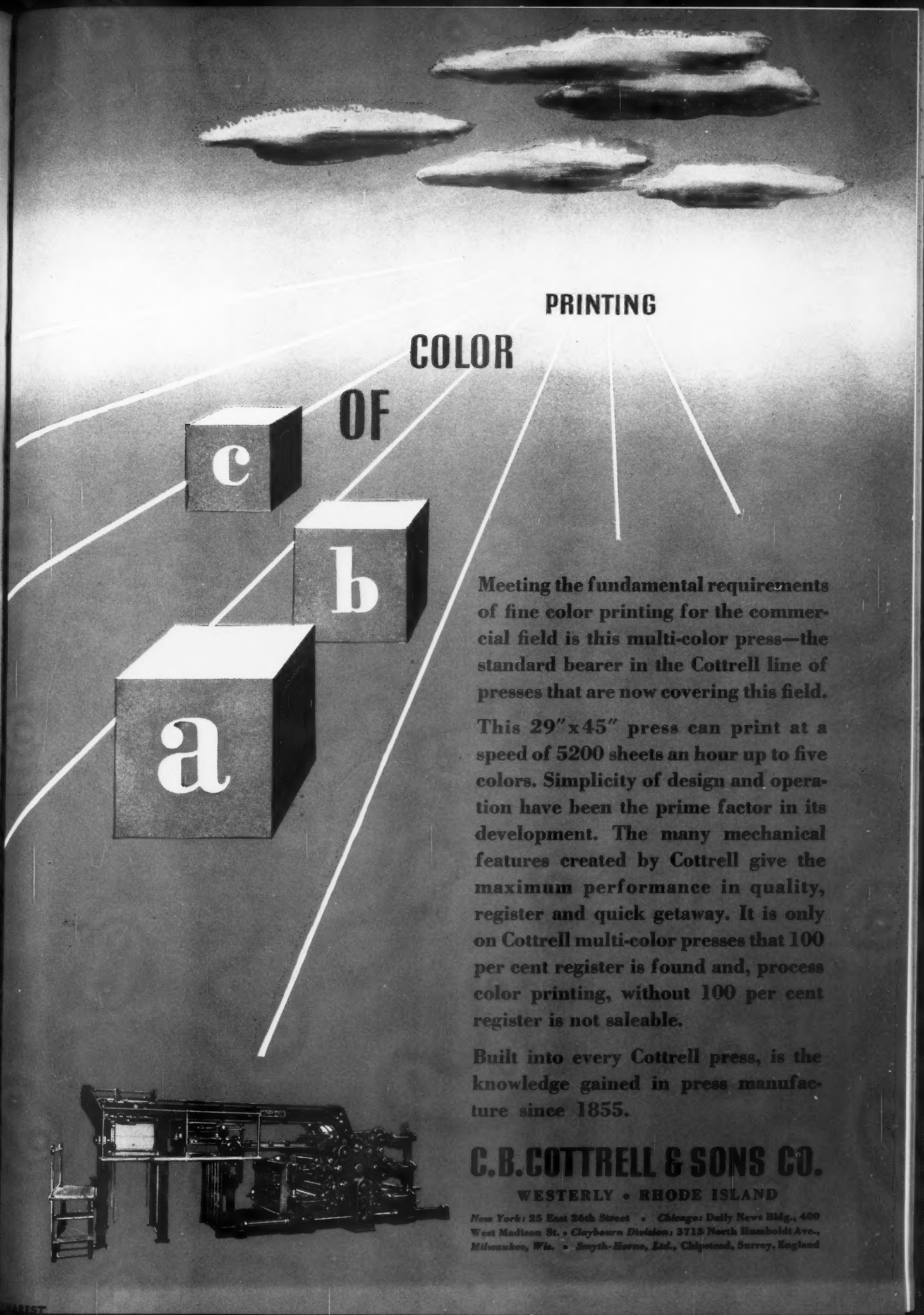
R. Verne Mitchell, new President of National Printing Equipment Association.

At a recent meeting of the Board of Directors of the National Printing Equipment Association, R. V. Mitchell of Harris-Seybold-Potter Co., was elected president. Neal Dow Becker of Intertype Corporation, was elected vice president. The meeting was held in the office of Secretary James E. Bennet, 140 Nassau St., New York 7, N. Y., on May 10.

Neal Dow Becker, new Vice President of National Printing Equipment Association.

The occasion for the election was that President Thomas Roy Jones presented his resignation. Mr. Jones stated that inasmuch as he had served as president since October 11, 1938, and had accepted re-election on October 15, 1943 only because of the emergency, he thought he should be released since he had served five and a half terms. The Directors were reluctant to take any action, but his resignation was accepted with regret. The Directors extended their thanks to Mr. Jones for his faithful service.

W. Kent Perkins, formerly assistant advertising manager of Ludlow Typograph Co., has become associated with the Industrial Marketing Div. of W. E. Long Co., 155 North Clark St., Chicago. He will work with advertising accounts for the baking industry and other industrial advertising. Mr. Perkins is well



Meeting the fundamental requirements of fine color printing for the commercial field is this multi-color press—the standard bearer in the Cottrell line of presses that are now covering this field.

This 29″x45″ press can print at a speed of 5200 sheets an hour up to five colors. Simplicity of design and operation have been the prime factor in its development. The many mechanical features created by Cottrell give the maximum performance in quality, register and quick getaway. It is only on Cottrell multi-color presses that 100 per cent register is found and, process color printing, without 100 per cent register is not saleable.

Built into every Cottrell press, is the knowledge gained in press manufacture since 1855.

C.B.COTTRELL & SONS CO.

WESTERLY • RHODE ISLAND

New York: 25 East 26th Street • *Chicago:* Daily News Bldg., 400 West Madison St. • *Claybourn Division:* 3713 North Humboldt Ave., *Milwaukee, Wis.* • *Smyth-Horne, Ltd.,* Chipstead, Surrey, England

known among members of Clubs of Printing House Craftsmen, having attended a number of international conventions, as well as being active in the Chicago Craftsmen's Club.

At a meeting of the Board of Directors of the Lanston Monotype Machine Co., held in Washington, D. C., on June 22, Harvey D. Best, who has been president for a long period of time, was elected Chairman of the Board. John J. Meadth, who has served the company as Vice President, for several years, was elected president. David S. Hendrick was elected

Harvey D. Best is now Chairman of the Board of Lanston Monotype Machine Co.

Vice President. All of the other general and special officers were re-elected.

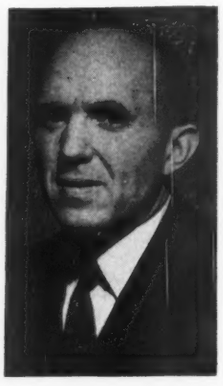
Mr. Best became associated with the Lanston Monotype Machine Co. in 1907 as a keyboard demonstrator after having learned to operate a Monotype in the Government Printing Office. After a time he became a sales representative. He was promoted to manager of the Philadelphia District Office. Later he became Assistant to then President J. Maury Dove. In time, he became general sales manager and vice president and in 1925 was elected president. He was a practical printer and first went to work in the Government Printing Office as a hand compositor.

Announcement has also been made of the retirement of Executive Vice President T. Frank Morgan on June 26, after twenty-five years of service with the Monotype organization. The position of executive vice president will not be filled.

Haberule Folder

The Haberule Company has issued a 12 page folder, in which is described the Haberule Visual Copy-Caster for copy-fitting. In the Haberule Copy-Caster are included 4000 type fonts, 763 type faces in every size from 4 pt. to 18 pt. by all of the composing machine makers and typefounders. These type faces are indexed and the number of characters per a given measure are quickly and automatically found for any type face listed in the device.

Robert J. Cashion has been appointed vice president and general manager of the Ink Division of J. M. Huber Inc., it was announced by H. W. Huber, president at the company. Cashion graduated from Colgate University in 1925 choos-



Robert J. Cashion, vice president and general manager, J. M. Huber, Inc.

ing accounting for his career. He received his C.P.A. degree in 1934 and remained in accounting until 1941 when he joined the Huber organization as comptroller. He is a member of the Comptrollers Institute of America.

The appointment of Milton Anderson, formerly art director for American Type Founders, Inc., as an art director of William E. Rudge's Sons, New York, is announced by Frederick G. Rudge, president. Mr. Anderson has served as typographic director for Montgomery, Ward & Company, and for well-known department stores.

E. C. (Gene) Stone, who has been performing special duties for the Geo. H. Morrill Company Div. of GPI, for the past two years has returned to his former activities of looking after sales in the territory which he formerly covered which includes the states of Minnesota, North and South Dakota and Iowa.

Army-Navy "E" Ceremonies For Rutherford

The ceremony for the presentation of the Army and Navy "E" recently awarded the Rutherford Machinery Company, Division took place Monday, June 19, 4:30 p.m., at the factory, Central Avenue and Herman Street, East Rutherford, N. J.

Gets Second "E" Star

Addition of a second star to the Army & Navy E Pennant flown by The Morley Company of Portsmouth, N. H., was authorized on June 22 in an announcement by the Undersecretary of War, Robert E. Patterson. The Portsmouth plant is engaged in the manufacture of protective eye shields. The Morley Company first received the Army & Navy "E" on February 5, 1943 and its first star was awarded on September 9, 1943.

EMPLOYMENT
AND SERVICE

Employers, production and mechanical executives may insert notices in this department. Items may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions. Any reasonable request by an executive on a subject other than those listed will be granted cheerfully.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

RESPONSIBLE PRESSROOM EXECUTIVE—Wants position; 35 years experience on all types presses; 8 years experience color work on soft packing; newspaper preferred; 51 years of age, married with family; steady, reliable; excellent references. Reply Box 205.

WANTED—A chemist or chemical engineer experienced in photo-chemistry, photo-mechanics or printing processes. Would prefer Ph.D. Salary open. Location: Middle west research institute. Reply Box No. 206.

Fourth Army-Navy Award

R. Hoe & Co., Inc., made public a letter from Under Secretary of War, Robert P. Patterson, containing the information that it had now for the fourth time the Army-Navy production award for continued outstanding achievement in producing materials essential to the war effort.

Mr. Patterson's letter said, in part: "By maintaining the distinguished record which previously brought you distinction you are once again proving your leadership on the production front."

At the office of the company it was pointed out that the organization has an extensive record of cooperation with the War Department. It was awarded and put through one of the first orders for armament placed with industrial firms long before the attack on Pearl Harbor. Since then the Hoe Company, peacetime makers of presses and related equipment for the publishing field, has been engaged virtually 100% in the production of ordnance equipment and machine tools for building war equipment.

on being alive

"To live is to function . . . that is all there is to living," said the late Justice Holmes on his ninetieth anniversary

IN BUSINESS, too, the company that is alive functions—regardless. Our immediate, prime job is helping our armed forces to win. In addition, LINOTYPE gladly accepts the responsibility of cooperation in the maintenance of outstanding typesetting equipment. To do this, our field organization has been kept actively engaged in this necessary service.

Such is our conception of "being alive" in the best sense of the term. Your job, of course, is to keep alive the power of print and support our government in all of its war efforts.

Linotype Caslon Old Face

PAPER AND PAPERBOARD: UNITED STATES PRODUCTION, BY TYPE, APRIL 1944—(Tons of 2,000 pounds)

Data cover all known mills, and represent a continuation of the monthly statistics initiated in "Facts for Industry," Series 24-2-1. For annual data and a continuation of the statistics, see "Facts for Industry," Series 24-1-2. Refer all inquiries concerning these data to: Bureau of the Census, Washington 25, D. C.

Type of Paper	1944		April 1943
	April	March[1]	
All types	1,402,180	1,483,085	[2]1,438,358
Newsprint	56,630	60,552	68,102
Groundwood papers	48,651	47,564	47,798
Printing	19,045	19,296	[3]14,400
Specialties	29,606	28,268	[3]33,398
Book papers	117,613	126,393	133,204
General printing	82,178	90,609	[3]96,494
Converting papers	35,348	35,627	35,957
Other book papers	87	157	753
Fine papers	78,270	88,024	88,372
Writing papers	56,996	64,838	[3]67,157
Cover and text	4,714	4,902	3,600
Reproduction	4,011	4,562	[3]4,081
Bristols[4]	7,512	8,002	[3]8,529
Thin papers	4,799	5,106	4,590
Other fine papers	238	614	415
Wrapping papers	149,709	175,352	169,280
Bag papers	25,891	32,144	47,860
Glassine	7,069	7,406	6,507
Greaseproof	2,066	2,288	2,335
Wrapping papers (continued):			
Vegetable parchment	2,460	3,059	2,512
Converting papers	66,580	71,970	[35]47,943
Wrapping papers	45,643	58,485	[35]62,123
Multi-wall sack papers	30,727	31,709	22,627
Special industrial papers	[5]19,192	[5]20,018	16,672
Sanitary papers	66,014	70,278	68,026
Tissue papers	12,953	14,569	13,613
Absorbent papers	7,298	8,832	6,872
Building papers	73,124	79,682	71,234
Paperboard	741,999	760,112	732,551
Container board	353,373	353,601	346,654
Folding boxboard	165,861	178,347	174,787
Set-up boxboard	62,518	64,636	73,849
Cardboard	5,219	6,182	5,986
Building board	96,770	94,483	90,833
Miscellaneous other board	58,258	62,863	40,442
Tube stock	39,312	42,972	22,553

[1] Revised.
[2] Includes a small quantity of paper not classified by type.
[3] Data revised to conform with certain changes in paper and paperboard classifications, which became effective beginning January 1944. For figures covering other months of 1943, see "Facts for Industry," Series 24-2-5.
[4] Includes Government Postal Card stock.
[5] Includes a small quantity of Special Industrial Papers having a basis weight of less than 100 pounds. Such paper was classified as Wrapping Paper prior to January 1944.

Uses of Paper *by Commercial Printers*

THE first scientific analysis of the use of paper by the commercial printing industry, showing weight of paper for government printing, functional and utility printing, advertising and other types of printing, has been presented to the War Production Board by the Joint Committee on Government Relations of the Commercial Printing Industry.

This analysis, based on a sampling of approximately 10% by weight of all paper processed by commercial printers under WPB Order L-241, should set at rest speculation about alleged wasteful uses to which printing paper is put.

The analysis shows that commercial printing today is geared to a wartime economy with over 80% of the paper processed during the first quarter of 1944 going into functional and utility printing used for the management, control, direction and operation of war and civilian business or used by federal, state and municipal government, Army and Navy.

The analysis shows that advertising printing, never as large an item as supposed, has been cut in half since 1941. This large decrease was chiefly in direct mail, off three-fourths from 1941. Miscellaneous advertising, including posters, handbills, etc., was also sharply cut. House organs were less affected.

The greatest change was in the volume of government printing, including Army and Navy orders, which increased five times between 1941 and 1944 to the approximate level of advertising printing.

The analysis is the result of several months' effort of the Joint Committee with the cooperation of 21 local printing associations throughout the country.

In order to insure the accuracy of the analysis, forms were checked in advance by WPB officials and statistical experts, and the statistical study was prepared by the Ross Federal Research Corporation.

The percentage increase or decrease in tonnage consumed from 1941 to the end of the first quarter of 1944 is shown in the following table:

Total Tonnage	—18.3%
Total Tonnage Minus X-Quota	—31.0%
Commercial Printing Which Is Not Restricted (Government X-Quota)	+378.5%
Functional and Utility Printing	—21.2%
Printing Done For Non-Profit Organizations	—29.8%
Promotional, Sales, Advertising and Public Relations Printing	—51.0%

Moran Passes

Jack Moran, 60, well known to many printing executives throughout the country, passed away Saturday, April 1. He was operated upon in the fall of 1943 but failed to make a satisfactory recovery. He had been ill for about one year. He had been in the employ of the Federated Metals Division of American Smelting and Refining Co. for the past 23 years. He was a member of the International Typographical Union. He had attended many of the ANPA Mechanical Conferences and was also a familiar figure at the I.S.& E.U. and other Graphic Arts conventions.

Great Lakes Conference

(Continued from Page 29)

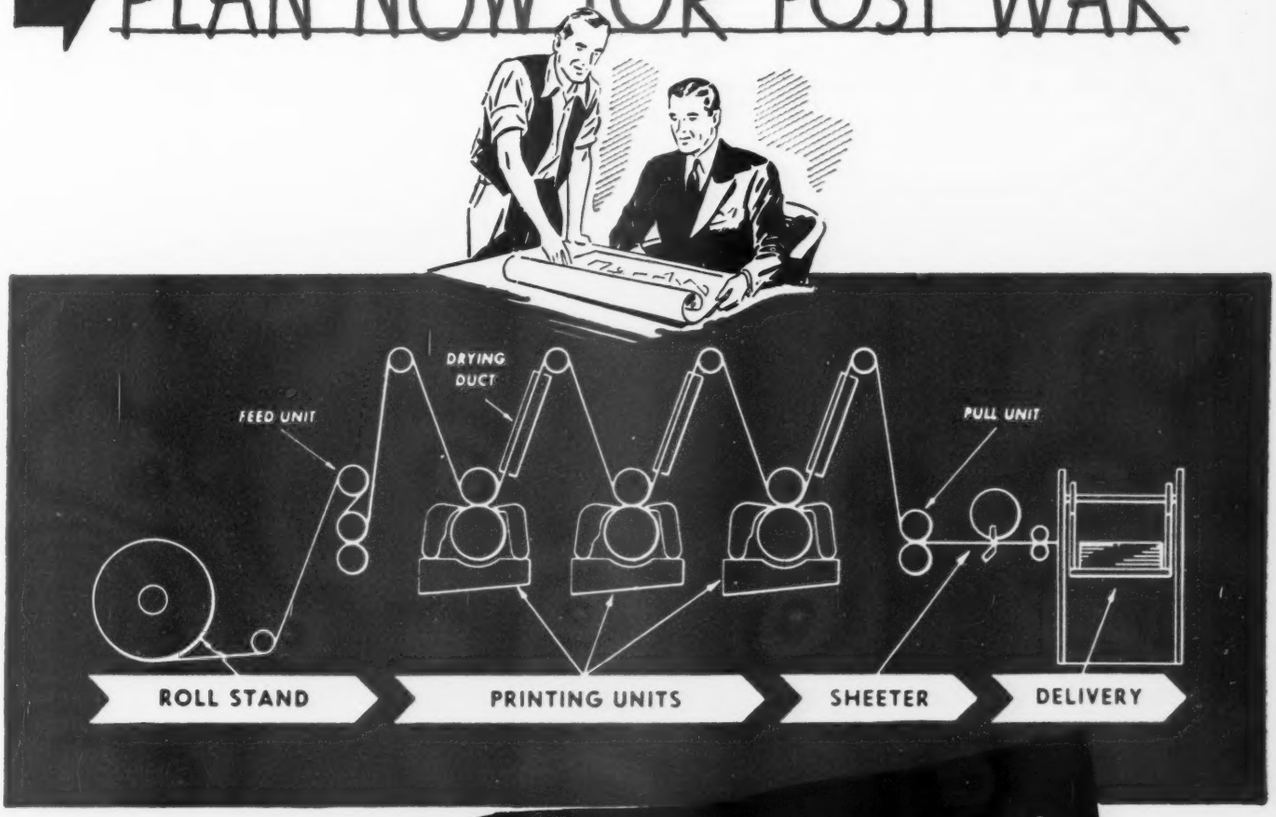
Tentatively, it is planned to conduct simultaneous departmental clinics on Sunday and Monday and to hold a correlation meeting on Monday afternoon. At the Monday afternoon meeting, the various clinic chairmen will report to a general assembly to present digests of the important discussions at the separate clinics.

A few well known speakers will participate in the program.

It has been planned to have the newspapers in the conference territory donate $5 each per year as an operating fund. In the three-state territory there are more than 200 daily newspapers.

Newspaper executives from neighboring states will be invited and urged to

PLAN NOW FOR POST WAR



Consider the Advantages of Rotogravure for PACKAGE PRINTING

With instant drying Gravure inks it is possible for you to print any number of colors, one on top of another, and fabricate or rewind the printed stock without offset . . . eliminating drying time between operations and resulting in greater production capacity.

The simplicity of the gravure principle eliminates makeready, permits rapid changeovers and puts an end to many of the difficulties of register control encountered when drying-time must elapse between printing of colors or between printing and fabricating.

The Speedry enclosed ink fountain—a patented feature of all CHAMPLAIN rotogravure presses—permits a complete new conception of ink application. The ink remains uniform; no splashing onto the web is possible; and the fountain protects the ink from foreign particles. Highly volatile solvents may be used without fear of evaporation in the fountain.

A wide variety of stocks have been printed successfully by rotogravure including cellophane and glassine.

Write today for booklet entitled "Advantages of Gravure for Package Printing."

Champlain

Division of The Fred Goat Co. Inc., Est. 1893
636 ELEVENTH AVE., NEW YORK 19, N. Y.

• • *Manufacturers of Rotogravure, Aniline and Typographic Presses* • •

attend the Cleveland Great Lakes Conference, as will all manufacturer and supplier representatives.

Outstanding Report To Stockholders

Management's Report to the Stockholders is contained in the 51st Annual Statement published by American Type Founders, Inc. Aside from the usual statistical tables, President Thomas Roy Jones presents a detailed statement addressed to the stockholders with respect to the company's activities for the fiscal year ended March 31, 1944.

The Board of Directors on February 21, 1944, voted the payment of a dividend of 50c a share to stockholders. This dividend was paid on March 14, 1944, and amounted to $248,050.50.

Mr. Jones comments in his statement regarding the 4500 employees: "In spite of the pressure of war production, and personal considerations, our employees have piled up a commendable record. We have had no labor disturbances or demonstrations. Our absentee rate has been only slightly above normal and the difference can be explained largely by the increased number of women who have had family problems to meet. Our employees have bought bonds liberally, and in every way have demonstrated themselves to be earnest, loyal, and industrious American citizens."

A number of excellently illustrated pages show ATF War products, company activities, employee relations, postwar future discussions.

ANPA Conference

(Continued from Page 39)

increases, the shrinkage increases at least up to the saturation point of the fibres.

"In talking about shrinkage we are, of course, talking about the shrinkage across the width of the page. The lengthwise shrinkage of a page is about one-half that of the crosswise shrinkage . . . In making paper of any kind it is the tendency of fibres to arrange themselves in a lengthwise direction because the fibres are less than 1% of the mixture as it is flowed onto the paper machine.

"The discussion of hydration and absorption of moisture answers the question as to what the limit of shrinkage is with the present materials, as far as the mat manufacturer is concerned. There is a limit to the moisture that can be used and still manipulate the mat as a dry mat. This limits the shrinkage . . . What the limit is for any particular newspaper will be determined by the equipment used and the manner in which the mat is handled in the stereotype department.

Shrinkage Beyond 5/8 In. Real Problem

"The shrinkage . . . beyond 5/8 in. presents a real problem. A thorough understanding of this problem by the mechanical departments is absolutely necessary if the move is to be successful.

"The most important point is based on the fact that the slower a mat is dried, the greater will be the shrinkage. The mat that is allowed to dry in the air will give more shrinkage than one that is dried in a scorcher. This means that the maximum shrinkage for any given moisture content can be obtained only by drying slowly and without hindering the shrinkage mechanically. Heavy weights on a scorcher cover will retard shrinkage. The vacuum on a Sta-Hi Former does the same thing.

". . . As we go beyond 5/8 in. shrinkage we are more closely approaching the point of maximum shrinkage. As a result, we get much less shrinkage in relation to the total percentage of moisture than we obtained at lower moisture contents. To be specific, an increase of moisture from 12% to 13% will give a larger increase in shrinkage than an increase from 20% to 21%.

Removal of Moisture Must Be Done Correctly

". . . Removal of this increased moisture must be done correctly. As the moisture content is increased, the water is more difficult to remove without causing trouble. Reasonably high temperatures can be used to evaporate the water from a 12% moisture mat. The same temperature on a mat that contains 20% moisture would cause steam to form more rapidly than it can escape, and forces a separation into layers. We say the mat 'blew up.' . . . The water which is absorbed by the fibres is the first to be given up in drying. The water of hydration follows and is more difficult to eliminate. Failure to remove it may cause chills in the casts. If the moisture is discharged too quickly, the contraction is so rapid that buckles will result. They are difficult to eliminate if the mat has highly hydrated fibres.

Mat Must Be Dried Slowly

"To get the maximum shrinkage from a mat and at the same time avoid many other troubles, it is imperative that the mat be dried very slowly. A pre-drying arrangement of some kind is advisable and almost necessary. The extent to which a mat is dried in the pre-drying arrangement determines the temperature and vacuum to be used in the Sta-Hi Former, if one is in use. The vacuum not only retards the shrinkage, but, if the mat contains too much moisture, it will pull the spaces back. Only sufficient vacuum should be used to position the mat.

Facts Must Be Faced

"To satisfactorily handle mats, to obtain high shrinkage, requires either additional equipment to get the mats to the casting box in the same length of time as previously, or the stereotype department must be given more time. These are facts that must be faced. If they are not, it means trouble, and a lot of it.

". . . I wish to say emphatically that in reducing the size of newsprint rolls, every mechanical means that can be possibly utilized should be utilized before resorting to higher shrinkage.

Mr. Fishburn concluded his discussion by asking a question and by making a statement, as follows: "Will this high shrinkage, or even higher shrinkage prevail when the emergency is over?" His answer was: "This depends upon the ability of the mat manufacturer to provide a mat which will minimize present difficulties, or upon the ability of the mechanical departments to provide the necessary means to eliminate these difficulties without any sacrifice in printing. At the moment, the newspaper has the bigger job."

Fuller Presents Constructive Ideas For Improving Printing

George Fuller, Stereotype Superintendent of the Cleveland *Press*, presented a constructive discussion related to improved newspaper printing during the postwar period. Unless the equipment makers didn't let himself and his two associates "in" on future plans, Mr. Fuller observed that on a recent trip to New York and Chicago they got the impression that very few equipment builders were planning anything out of the ordinary except minor refinements of present-day equipment. The trip referred to was made by Worth Coutney, then business manager; Walter Ogden, pressroom superintendent and Mr. Fuller, all of the Cleveland *Press*.

Among other things, Mr. Fuller argued for direct pressure stereotype mat molding, the elimination of mat shrinkage by composing the forms in narrow-measure type, and the need for organized research to secure the answers to some puzzling present-day platemaking problems.

He related some experiments he had made in collaboration with Stereotype Superintendent Harry Wrasse of the Milwaukee *Journal*. Both 1/4 in. and 7/16 in. plates were made direct pressure cold molded regular newspaper mats. Mr. Fuller stated that what himself and fellow investigators were trying to determine was what difference if any there would be in printing results between direct pressure baked mats, using a magazine mat, and the cold-molded regular newspaper mat.

The 1/4 in. plates were run on a color press with hard packing and the plates from both mats were run back-to-back so as to get the best comparison possible. The same procedure was followed on the 7/16 in. plates on a regular newspaper press, using magazine ink from an individual ink fountain. Of course, this was a slightly better ink and cost about 1c to 1½c per lb. more than regular news ink.

"The results seemed to indicate," said he, "that we are not doing the best possible printing job on the newspaper press. The results also showed better printing from direct pressure baked mats than from the cold-rolled mats because of a truer printing surface.

"D" DEVELOPMENT DAY

is Everyday at GOSS

☆

. . . *Back* of the long-awaited "D Day" that thrilled the nation . . . were long hours of painstaking planning and *development*... to make SURE that this fateful day *would* mark the beginning of the end of the battle for human rights.

At Goss, "D Day" symbolized the beginning of a shift into high gear on an active planning and development program . . . the more intensive correlation of new ideas . . . awaiting the availability of materials and manpower to construct laboratory models to pre-test for post-war requirements.

Yes . . . every day is development day at Goss . . . and with the day rapidly approaching when new presses *can* be built, Goss precision-trained workers will be ready for a quick change-over from gun to press production.

Goss invites preliminary discussions of tentative press specifications with all newspapers and printing plants looking toward new and improved post-war equipment.

THE GOSS PRINTING PRESS COMPANY
1535 SOUTH PAULINA STREET • CHICAGO 8, ILLINOIS
NEW YORK • SAN FRANCISCO • LONDON, ENGLAND

Transmuted Wood May Have Important Use in the Graphic Arts Industries

RECENTLY, E. I. du Pont de Nemours & Co. made announcement of its methylolurea treatment for transmuting wood. While the effects of this process upon industrial usage apparently will be tremendous we will only discuss it here with respect to its probable use for mounting printing plates. Some speculation is already existent in the printing industry as to the applicability of the process for treating wood used for mounting engravings and other printing plates. According to du Pont, while the chemical has not been evaluated for use in mounting printing plates, the treatment appears to be readily applicable for that purpose. At least one manufacturer of wood mounting lumber is investigating the method for postwar use. Printing executives have yearned for a wood mounting substitute for years. The requirements, however, are not easy to meet. The cost of the substitute must be reasonable in price; it must be stable under atmospheric conditions, particularly under use conditions after storage for a more or less lengthy time interval, and it must be receptive to and hold the mounting nails as well as the commonly used natural wood base.

The new du Pont methylolurea treated wood development is an outgrowth of general long-range investigations on the impregnation of wood conducted over many years by the U. S. Forest Service, du Pont, and other groups.

The methylolurea treatment of wood appears at this time to be applicable to almost all items manufactured from wood, from public utility poles and structural timbers to pipe stems and parts for musical instruments. Because of the process, hard maple, oak, and walnut could be released for other more essential uses. Soft maple can be made harder than hard maple, hard maple can be made harder than ebony, which is the hardest wood known. Industry can now create in a few days woods harder than ebony which nature takes centuries to grow.

The process is described by du Pont's J.F.T. Berliner. An abstract of that description is printed here, as follows: The impregnation of wood with resin-forming methylolurea and the conversion of this chemical to resin within the wood is relatively simple and inexpensive, involving no new procedures or new or special treatment. A water solution of an uncondensed methylolurea is forced into the wood structure. The methylolurea is there converted to resin by the natural acids present in the wood. Heat, such as in normal kiln drying, speeds the conversion of the methylolurea in the wood to water-insoluble resins. A permanent resin that is both hard and insoluble is developed within the wood structure either at normal or at kiln temperatures. If the kiln drying has not been at too high a temperature or if conducted rapidly enough, the resinification reaction will proceed to the insoluble but still fusible stage and will remain so for a period of time. If wood so dried is heated to 240 deg. F. or higher, the resin fuses and will flow under pressure and the resinification is rapidly completed to the infusible state. The wood will permanently retain the dimension and surface produced by the compression.

New Mat For Postwar Printing

"I've come to the conclusion that the present-day newspaper mat is not the mat to do the post-war job of newspaper printing. Readers and advertisers are going to demand a better postwar job of printing. I think it behooves our mat company friends to start developing mats that will give a truer and better printing surface now — I mean a mat adaptable to direct pressure and heat."

Espouses Direct Pressure

Mr. Fuller stated that direct pressure plastic baked mats are recognized as the last word for color work for newspaper and magazine presses and for making commercial and national advertising mats. "Since these things are true, why not make all newspaper plates the same way with direct pressure baked mats designed for the purpose?" he queried.

Research Need Emphasized

The need for research was emphasized by the speaker. There seems to be no answer for many technical problems which come up. Every make of mat brings with it its own problems and I'm sure our mat-maker friends do not know all the answers. One of the problems mentioned is that the forms molded in an emergency on a mat roller in a plant using direct pressure molding regularly give from 1/16 in. to 1/8 in. more shrinkage than the direct pressure mold will yield. He cited an instance where one press builder put some of Mr. Fuller's 1/4 in. plates on an experimental press but couldn't print them. The plates were good but no one really knew why they would not print. Mr. Fuller then observed: "Perhaps a little experimenting with ink, newsprint, blankets or rollers would have produced the answers.

Like other mechanical executives who made subsequent remarks to his, Mr. Fuller asserted: "Excessive shrinkage is contrary to all principles of good printing. I'm afraid if the practice is continued it will be detrimental to the industry."

Get Equivalent of Shrinkage By Setting Narrower Columns

The speaker paid his respects to excessive shrinkage when used to conserve newsprint. He queried: "If a newspaper wants to stay on narrower newsprint why not do it mechanically? This could be done by using the 11½ pica column instead of the 12 pica column. It's hardly reasonable to say that setting narrower type columns is any greater hardship in order to save newsprint."

Goggin Discusses Stereo Platemaking Technique and Looks Into the Future

Newspaper Stereotyping and Its Future Possibilities was the subject discussed by Joseph Goggin, Representative of The Morley Mat Company. "We will assume that the ultimate objective of newspaper stereotyping includes a plate of correct dimensions."

He said that to obtain correct dimensions, the cutting, sawing, trimming and shaving of the plate should be done at uniform temperatures. A 10 deg. differential will vary the result. The curved plate invariably undergoes changes of shape and dimension during the secondary cooling of the plate. Secondary cooling includes reducing the hot solid plate from approx. 375 deg. F. to cool temperatures. Unless the temperature is reduced uniformly (which usually is not the case) the uneven temperatures cause the changes. If there is no interference and the distortion is due entirely to uneven temperature, the curved plate will return to its cast shape and dimension when all sections of the plate reach the same temperature.

"Bearing in mind," said he, "that a stereotype plate will continue a measured degree of contraction until the lowest temperature is reached, a measure estimated to be about 0.001 in. for every 11 or 12 deg. of temperature, it is not difficult to accept the importance of sawing, shaving and trimming the plate within close temperature ranges.

"To obtain a true level on the surface of the stereotype plate, the shrinkage of the cast must be uniform. This requires a uniform temperature in the casting equipment." The speaker asserted Tempilstik temperature tests indicate that uniform temperature of casting equipment is rare."[1]

Rapid Cooling Essential

"Rapid primary cooling of the alloy from the molten to the solid state is essential. The face of the cast should be set solid between 2 and 3 sec. . . . A longer time period is required to allow the escape of air and permit the alloy to settle fully to obtain the maximum weight and solidity of the cast. This can be accomplished by setting only the face of the cast quickly, leaving the bulk of the alloy at the center and back of the

[1]The Tempilstik is a wax pencil-shaped device. Tempilstiks are made to melt at given temperatures in graduations or steps of 25 deg. By applying the proper Tempilstik against a surface, the temperature of which is to be measured, the wax will melt. Tempilstiks are made in a range of temperatures from 125 deg. F. to 700 deg. F. See January 1943 issue of *Printing Equipment Engineer*.

ipi **KEEPING IN TOUCH** ipi

PREPARED BY INTERNATIONAL PRINTING INK DIVISION OF INTERCHEMICAL CORPORATION • JULY, 1944

COLOR PIONEERING RECOGNIZED

Research of Leaders Now Generally Accepted

As the result of continuous research, scientific methods of color measurement and control are gradually replacing superficial, highly opinionated methods. One outstanding indication of this trend was the adoption by the American Standards Association of the Standard Specification and Description of Color.

International Printing Ink has been a steady contributor to both color research and the publication of fundamental information about color.

Three Monographs on Color

As far back as 1935, IPI published "Three Monographs on Color," the first comprehensive, authoritative work reconciling the viewpoints of the physicist, chemist and user of color. These books were heralded as "the outstanding publishing event in the graphic arts" of that year. Even today, they are the best source of fundamental information on color.

For many years IPI has fostered the adoption of a common color language. Joining hands with General Electric, Interchemical Corporation, the parent company of IPI, was a sponsor in the adoption of the A.S.A. Specification and Description of Color -Z-44, accepted June 17, 1942. This standard recognizes spectrophotometry as the basis for color measurement. The machine used is the G.E. Recording Spectrophotometer, the first commercial model of which was made for IPI and has been used for nine years by the Interchemical Research Laboratories.

Spectrophotometry is the most accurate method of measuring color.

Color Standards Surveys

Spectrophotometry guided the production of IPI's latest letterpress and offset color guides, which are the only color guides with colors notated in accordance with A.S.A. Standard. In package printing, the spectrophotometer has made possible the IPI Color Standards Surveys and insures their accuracy over the years.

Interchemical Corporation was among the first to secure one of the amazing Electron Microscopes with a resolving power 50 times greater than the very best light microscopes! This instrument is in continuous use in the Research Laboratories along with many other instruments for the measurement and control of color such as the Spectrograph and the Rotational Viscometer (an exclusive Interchemical development).

The Electron Microscope reveals new knowledge about pigments and vehicles.

Allcolor Sheets

To implement the use of color in an orderly system, IPI cooperated with the Allcolor Company in the production of the widely-used Allcolor Sheets. The color sheets are notated according to the Munsell system recognized by the A.S.A. Standard. There are 360 colors available using printing inks instead of materials which are difficult or impossible to duplicate on a printing press.

FREE COLOR GUIDES

A letterpress color guide, an offset color guide—each made up in both file size and pocket size—and a specimen book of IPI* Everyday* Inks are now available to printers and others who specify printing ink colors. Write for the guides you need to International Printing Ink, Empire State Building, New York 1, N. Y.

*Trademark

PUT A WAR MESSAGE INTO EVERY PIECE OF PRINTING
For source material, write GAVC, 17 E. 42d Street, New York

cast to remain molten until these casting requirements have been completed.

"It is possible now to demonstrate that more than 5 deg. F. variation of temperature at the face of the cast will affect the level of the printing surface of the plate.

Cooling Differential Cause of Casting Difficulties

"Consider that the iron of the casting equipment temperature rises rapidly in contact with the molten alloy, but cools very slowly. The reverse is true of the temperature characteristics of stereotype alloy which rises very slowly and cools very rapidly. This is a factor which in my judgment can account for most of the casting difficulties experienced. Circulating water systems, particularly those of unknown volume and temperature, do not appear to serve the fixed standard requirements of casting operations.

"The Youngstown (O.) *Vindicator* installed thermostatic water valves to regulate the temperature of the casting equipment with circulating water. It was found the casting equipment temperature still varied about 35 to 40 deg. F. To overcome this variation, circulating pumps were installed. One pump circulated water at a given temperature in the core of the casting equipment, regulated to solidify the center and back of the cast precisely at the time desired. Another pump circulated water of a different fixed temperature through the casting box at the face of the cast, regulating the setting of the alloy at the face of the cast. This apparatus supports a suspicion of mine that because of the widely different cooling cycles of iron and stereotype alloy ordinary water temperatures and pressures are inadequate to control casting equipment temperature within the necessary ranges for ideal stereotype plates.

"The roller types of molding equipment in common use today do not permit the stereotyper to make a mold which has all the necessary requirements to insure reaching the objectives desired.

Direct Pressure

"Direct pressure molding will eliminate a score of complicated factors involved with the roller methods. These factors of direction of pressure, spread of pressure and balance of pressure have a greater number of compensators than any group of related factors in the stereotype process. . . . Direct pressure molding equipment enables the stereotyper to apply the load of pressure correctly as the maximum compression of the cushion is reached and the amount of pressure actually recorded. . . . It is my opinion that the greater value to the stereotyper with direct pressure equipment will be found in the ability to mold separately the conflicting considerations involved. The white impression can be secured with one type of molding cushion, and a second bump can be taken with a firm sheet to compress the mat precisely as desired.

Aluminum-Tin Alloy Plate

"I believe the greatest contribution to postwar newspaper printing will come through a revolutionary development in stereotyping. Early experiments are encouraging for producing a light-weight stereo plate that will perhaps exceed all of the present requirements of fidelity, wearing quality, durability, strength, etc. These requirements, including adequate space level depth, are contemplated with a newspaper stereotype plate about ⅛ in. thick, weighing but a few pounds, and cast from an aluminum-tin alloy, or some other similar type alloy.

"Aluminum casting temperature exceeds 1300 deg. F. When alloyed with about 10% tin, it gives a casting temperature of between 840 deg. F. and 850 deg. F. This temperature is expected to permit the use of the conventional stereotype mat," said Mr. Goggin, "especially if the face of the mat is treated with a form of graphite dusting, or perhaps a metallic sheet surfacing molded along with the regular mat for added face protection. At 850 deg. F., the present face of stereo mats turns black, but only at the very surface. I have witnessed as many as 15 casts taken from a conventional type of stereo mat at this temperature with the aluminum-tin alloy. I believe five casts could be taken regularly without any additional surface protection.

"The face of the aluminum-tin stereotype plate is expected to be as faithful as the surfaces of electrotypes or zinc engravings."

General Discussion Leads to Shrinkage Limitation

At the conclusion of Mr. Goggin's address, a number of executives discussed excessive dry mat shrinkage problems. It seemed to be the consensus of opinion that shrinkage is approaching the point where it is extremely difficult to produce a good appearing paper in addition to production difficulties in making plates caused by high shrinkage.

LeRoy Church, Mechanical Superintendent of the Akron (O.) *Beacon-Journal*, who no doubt spoke from a reasonable shrinkage viewpoint, asserted that the papers being printed now are no better than those printed 35 years ago and that he had copies of the *Beacon-Journal* in his room. G. A. Disher, Mechanical Superintendent of the Montreal (Que.) Southam Newspapers, suggested through Chairman Griner that perhaps Mr. Church could be induced to exhibit the specimen copies to the executives. (Mr. Church departed and brought them in.—Ed.)

Auburn Taylor, Pressroom Superintendent of the Charleston (W.Va.) *Gazette*, addressed the microphone and discussed printing quality. To get an expression of opinion, Mr. Taylor asked Chairman Griner to call for a vote to show how many in the audience are satisfied with the printed appearance of their papers. Upon putting the vote, no hands were raised. Chairman Griner then asked for those who are not satisfied with the printed appearance of their papers to raise their hands. To a man, every executive present raised his hand. It was the consensus of opinion that today's newspaper is inferior because of war conditions.

Charles Kirk, Stereotype Superintendent of the Detroit *News*, arose to explain that his paper had adopted 1 in. mat shrinkage and had been on it for about one week. He said, however, he and his associates were not satisfied with results so far.

Charles L. Webb, Pressroom Superintendent, of the Los Angeles *Times*, dis-

Graphite—

Is It Injurious to My Body?

ONCE in a while, someone connected with composing machine operation brings up the question as to whether or not the breathing of powdered graphite might be hazardous to the health of those either using it or working about or with machine parts upon which it has been used.

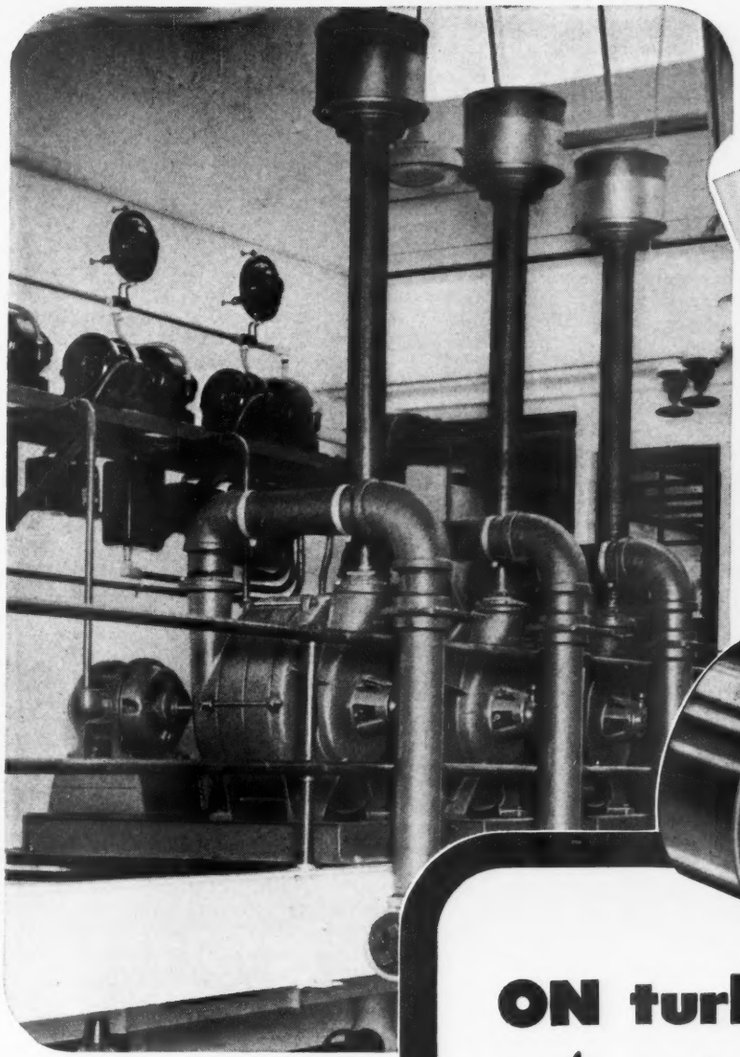
A recent release from Mergenthaler Linotype Co. states the question came up at some of the Linotype Clinics. The word "graphite" is defined, the explanation making it perfectly clear that graphite does not contain lead in any form.

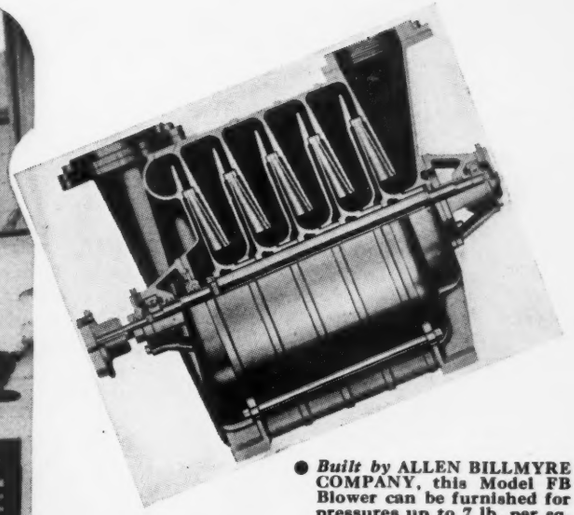
Further it is explained in the release, one of the largest manufacturers of graphite products makes the following statement:

"All of our information and experience, without exception, teaches that graphite is not injurious to health. We have had men in our employ who have worked for years in thick graphite dust with no indications of either injurious or beneficial effects on health. Some of these men have been with us for over 50 years. Masks are now required by law where dusting is excessive, but previous to this time all people worked without masks. By excessive, we mean where clouds of dust are generated by grinding and handling tons of fine graphite.

"Graphite is an inert form of elemental carbon and is not absorbed into the system. We know of no instance where graphite, in small or large quantities, over any period of time, has ever affected health."

"Thus it seems obvious," states MLCo., "that the incidental use of graphite in cleaning spacebands and so forth could not possibly be injurious to health. There is no good reason why composing room workers should be at all hesitant about working with graphite."





● *Built by* ALLEN BILLMYRE COMPANY, this Model FB Blower can be furnished for pressures up to 7 lb. per sq. in., vacuum up to 10 in. Hg., capacities up to 3600 c. f. m. and for electric motor, steam turbine, or gasoline engine drive, direct - connected or belt - driven.

ON turbo-blowers *for printing presses*

In the printing industry, these three Turbo-Blowers furnish air at capacities up to 3600 c.f.m. on SKF Bearings. By having SKF Bearings on the impeller shaft to take care of both radial and thrust loads, shrewd designers have avoided the danger of bearing trouble. Here—as on the cylinders of giant newspaper presses—SKF performance means press performance. 5619

SKF INDUSTRIES, INC., PHILA. 34, PA.

SKF

ball and roller bearings

cussed newspaper printing from the standpoint of the advertiser as the principal objective. He said the discussion about Mr. Church's contention had reference to the satisfaction of the advertiser.

Road to Quality Printing Not Down Shrinkage Ave.

Edwin H. Evers, Production Manager of the St. Louis *Globe-Democrat*, arose to assert that "The road to quality printing is not down shrinkage avenue." He spoke of Mr. Fuller's 11½ pica column and asked the conference to go on record as favoring the mechanical reduction of page widths mechanically rather than through mat shrinkage.

W. A. Carns, Mechanical Superintendent, Birmingham (Ala.) *News* and *Age-Herald*; G. S. Reilly, Sales Manager, Goss Printing Press Co.

Victor Fishburn, who spoke previously upon dry mat shrinkage, was asked to come to the microphone by Chairman Griner. The chairman thought perhaps Mr. Fishburn could offer some valuable suggestions. Mr. Fishburn stated that the mat manufacturer is at the mercy of the consumer with respect to shrinkage. He explained again that moisture in mats is obtained partly through hydration and partly through added moisture. He asserted: "We are approaching the limit with respect to increased shrinkage. We're getting right back into the wet mat stage." He tossed the problem right back into the laps of the executives present, saying: "Now it's up to you fellows to contribute something—the mat manufacturers have just about reached the limit."

Joseph Addison, Pressroom Superintendent of the Hartford (Conn.) *Times*, stated he didn't know what the limit in shrinkage would be but that he had heard a Boston newspaper is now using 1¼ in. shrinkage. He concluded by observing that with respect to good newspaper printing "we are close to breaking the camel's back now."

Moderate Shrinkage Favored

Mechanical Committee Chairman Burns assumed to chair and suggested that the conference go on record about shrinkage—whether the executives in the conference preferred greater shrinkage or moderate shrinkage. A show of hands indicated unanimous desire to employ moderate shrinkage.

Others who spoke on shrinkage problems were Stereo Superintendent Charles G. Bowen of the Philadelphia *Inquirer*, who said that shrinkage is a form of type distortion; Russell B. Miller, Mechanical Superintendent of the Bloomington (Ill.) *Pantagraph*, said that avoidance of excessive shrinkage is the first requisite of quality printing so let's conserve newsprint some other way. L. J. Chase, Production Manager of the St. Louis *Star-Times*, H. L. Higgins, Composing Room Superintendent of the Detroit *News*, and James M. Toler of the Philadelphia *Record*, also made comment.

Pressroom Session

THE Pressroom Session was held in the Euclid Room Tuesday afternoon, June 13 at 2 o'clock. A. H. Burns, Mechanical Superintendent of the New York *Herald Tribune* presided.

The principal part of the Pressroom Session was devoted to showing motion pictures demonstrating best methods for handling newsprint rolls from dock or freight car, to storage, to pressroom. The pictures shown might be called a cooperative venture, since a number of newspapers contributed film. Those participating were Washington (D.C.) *Star*; St. Paul *Dispatch* and *Pioneer Press*, Minneapolis *Star-Journal* and *Tribune*, Boston *Herald Traveler*, Hartford (Conn.) *Times*, Louisville (Ky.) *Courier-Journal* and *Times*, Toronto (Ont.) *Telegram*, Camden (N.J.) *Courier-Post*, Des Moines (Ia.) *Register* and *Tribune*, and the Newark (N.J.) *News*. The composite picture has been given into the custody of Manager W. E. Wines of the ANPA Mechanical Department. It is available for publishers who wish to make a study of newsprint handling methods.

The pictures represented a study of large and medium size newspapers reporting low percentages of waste in the ANPA classifications of handling and transit. Publishers were requested to contribute motion pictures illustrating the methods used in obtaining satisfactory results.

C. B. Cook, sales manager of the Elwell-Parker Electric Co., Cleveland, manufacturers of electric trucks for transporting, handling and tiering newsprint rolls presented a movie showing how newsprint is handled in several plants using Elwell - Parker trucks. Among the cooperating papers were the Youngstown (O.) *Vindicator*, the New York Daily *News* and the *Christian Science Monitor*, Boston.

Mr. Cook's discussion was devoted mostly to the important savings in newsprint handling damage and waste together with savings in costs by virtue of the facility with which rolls can be handled with his equipment. One newspaper reduced handling and transit damage from ⅜ of 1%. At the present time only 25 rolls out of 60,000 T. of paper handled had been damaged. Another newspaper effected a $2100 saving in the handling of each 5000 T. of newsprint and had reduced damage amounting to 0.8% to 0.1% through the use of Elwell-Parker trucks.

After the conclusion of Mr. Cook's discussion and the showing of the Elwell-Parker film, Chairman Burns opened the meeting for general discussion on 30 lb. newsprint.

Prefer 32 lb. Newsprint

It was Chairman Burns's intention to confine the discussion to the handling and operation of 30 lb. newsprint to the pressroom, but it seemed that those who wished to talk about it strayed from the pressroom at times. Most of those who spoke upon the subject of 30 lb. newsprint were opposed to it because of the general appearance when placed in the readers' hands. A show of hands indicated that about 50 executives in attendance at the meeting were using or were "playing around with it." A considerable majority, upon call from Chairman Burns, stated they preferred the 32 lb. weight.

Increased Yardage Offset by Tonnage Reduction

Leon A. Link, Production Manager of the *Cleveland Plain Dealer*, reported upon a recent meeting in Washington of newsprint committee. Said he: "If the objective of the publishers is to get more yardage by using 30 lb. newsprint than they get from 32 lb. paper, I question the possibility of their achieving it." It was Link's understanding that newsprint commitments from Canada had been cut from 200,000 T. to 185,000 T. On this basis, an expected 6.25% increase in yardage should be compared to a 7.6% reduction in tonnage.

G. A. Disher, Mechanical Superintendent of the Montreal (Que.) Southam Newspapers, stated he doubted if newspapers were gaining yardage by using 30 lb. paper. He asserted the newsprint production of Canadian manufacturers is being curtailed by 8% because of the loss in weight between the 30 lb. and the 32 lb. paper and the slowness in daily production of the lighter weight paper.

Otto Kurrle, Stereo-Pressroom Superintendent of the Moline (Ill.) *Dispatch*, said he got from 650 to 800 more pages per roll from the 30 lb. paper than he did from the 32 lb. paper. He also said that where possible he runs the 30 lb. paper on the inside of the paper with 32 lb. on the outside. On the 30 lb. paper he prints the pages gray in order to avoid strike through and show-through.

Production Manager Herbert Stanger of the *Christian Science Monitor*, said that while the *Monitor* had been playing around with 30 lb. paper only as a war measure, his firm fully expected to return to 32 lb. paper as soon as possible. He notices no particular trouble. However, there are more web breaks and showthrough is noticeable.

Herman Wedemeyer, Pressroom Superintendent of the Detroit *Free Press*, stated that he had used some 30 lb. newsprint and was preparing to go to that weight as soon as the 32 lb. paper had

(*Continued on Page 62*)

Printing Patents . . .

Covering patents issued May 23, May 30, June 6, June 13, June 20

This data is compiled exclusively for Printing Equipment Engineer by Invention, Inc., is verified in the United States Patent Office, and is comprehensive of all patents in the field of each heading for the dates specified.

For copies of patents listed here, specify the patent numbers and send 10c for each separate patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating:

2,349,947. BINDING DEVICE FOR BOOKLETS, pamphlets or magazines. The sheets are assembled in superimposed relation so that slots or slits located on a longitudinal center line of each sheet will align. In this position a narrow strip with offset tabs arranged to fit slots is inserted in the unfolded stack of sheets. The stack is then folded and tabs are bent either over the front or back section of the thus-assembled book. Invented by Henry Einzig, Chicago, Ill. Assigned to Stemar Displays Company, Chicago, Ill. Application October 26, 1942. 2 claims.

2,350,540. MACHINE FOR CUTTING STACKED SHEETS OF PAPER. The invention provides an adjustable eccentric connection between one end of the reciprocable knife and its driving rod for adjusting level of the knife, and another adjustable eccentric connection between the other end of the knife and its guide for adjusting the angle of the knife, both level and angle being respective to the cutting table at the bottom of knife stroke. Another feature is compressible or resilient springs for pressing holding clamps on the stack of sheets throughout the major part of working stroke. The springs are compressed toward the end of the working stroke and at a time when load is at a minimum, so that additional load on the drive is avoided during the time that knife is passing through the sheets, yet, by means of the springs, a clamping pressure is developed and made available before cutting operation begins. Invented by William R. Spiller and Leo D. Barley, Dayton, Ohio. Assigned to Harris-Seybold-Potter Company, Cleveland, Ohio. Application November 2, 1942. 18 claims.

Composing Room Equipment:

2,349,972. APPARATUS FOR REFINING LINOTYPE AND STEREOTYPE METALS, also babbitt, solder, terne, etc. Apparatus includes a receptacle for holding a molten bath of the metal, a frame disposed over the receptacle and skimming means arranged on the frame comprising a vertical shaft supporting a horizontal skimmer. Skimmer is rotated by an electric motor while in contact with the surface of melt to repeatedly brush aside dross and skimmings which form thereon while the bath of metal is maintained at a temperature so impurities will tend to separate from the body of the melt and rise to the surface. Invented by Thomas R. Lister, Whiting, Ind. Assigned to American Smelting and Refining Company, New York, N. Y. Application February 25, 1943. 4 claims.

2,350,893. MASTER SIGNAL TYPE for typewriting, perforating or typesetting as by a Linotype machine, by means of which it is possible to produce characters for accurate mechanical interpretation, e.g., by photocells or contact springs. To do this, the type faces are so formed as to produce by their engagement with the writing surface, a picture composed of a number of fields following after each other in the direction of reading, each field comprising transversely to the direction of reading a transparent, translucent, or light-reflecting part and an opaque part. The result may be accomplished by printing the master in which case the dark fields are produced by blackening, or by perforating, in which case the light fields are produced by perforations. Electrical impulses transmitted through the interpretation system (by photocells or contact springs) serve to actuate the recording member (e.g., the type arm of a typewriter, a Linotype machine, etc.) for the character corresponding to the sequence of impulses. Invented by Rolf Hofgaard, Sondre Hellerud Gaard, Nordstrandshogda, near Oslo, Norway. Vested in the Alien Property Custodian. Application April 5, 1940. 10 claims.

2,351,126. MACHINE FOR PHOTOGRAPHICALLY COMPOSING TYPE CHARACTERS of the kind in which transparent characters or symbols on opaque backgrounds, or opaque characters or symbols on transparent backgrounds, are photographically projected one at a time upon a sensitized surface. Subsequent photographic reproduction of the resulting composition is suitable for various purposes including keeping records, or preparatory to plate making in printing operations, such as for offset or gravure printing. The original selection and projection of the type characters are controlled by a previously prepared record strip, i.e., a perforated strip that controls pneumatically operated mechanisms. Invented by Alexander G. Highton, Paterson, N. J. Unassigned. Application May 5, 1941. 12 claims.

Feeding, Folding and Delivery:

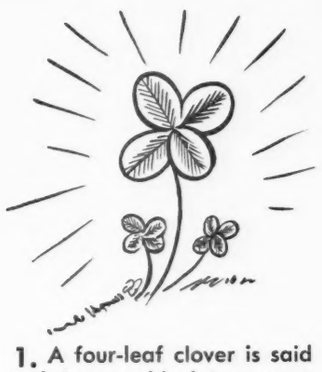
2,349,336. IMPROVED CUTTING BLADE for severing moving webs of paper, paperboard and laminated paper products, useful in the production of cartons and boxes. The cutting blade is doubly tapered and has side faces disposed at an angle of from 55° to 80° with respect to one another, and a curved cutting edge with a radius of from 0.002 to 0.004 inch joining the faces. Web is kept under tension, and compressive stresses are set up in paperboard on each side of the proposed line of cut so that board will be severed without bringing cutting edge into contact with its cooperating impression surface. The blade need not be moved completely through board for finished severing. Invented by James W. Batchelder, Titusville, Pa. Assigned by mesne assignments to The Fred Goat Co., Inc., Brooklyn, N. Y. Application April 23, 1940. 2 claims.

2,349,558. DRYING HOOD for webs of freshly inked paper. Nozzles, positioned about the hood, direct air within the hood over a web drum from a supply header integral with hood. The volume of air and its direction from nozzles may be adjusted. As nozzles are completely enclosed, escape of fumes from the hood to the atmosphere is prevented. The hood has numerous sliding panels and webs may be selectively fed through from various locations. Invented by Bernard Offen, Chicago, Ill. Unassigned application November 28, 1942. 7 claims.

2,349,656. REGISTER CONTROL SYSTEM for a traveling web of printed sheet material having an index line, this patent being a continuation in part of application for patent 2,208,420, which is on apparatus applied to printed paper and a slitting machine for cutting the printed paper into ribbons of predetermined width. An object of the present invention is to provide a register regulator having an inertialess vibrating reed which is polarized with respect to an A.C. electrical source by means of one or more rectifiers. The reed moves across a light beam focused on rectifiers. The reed moves across a light beam focused on the general area of the index line. The relative position at which the index line is crossed is an indication, as shown by a photo-tube, of the direction and extent of required correction for registration. Invented by Finn H. Gulliksen, Pittsburgh, Pa. Assigned to Westinghouse Electric &

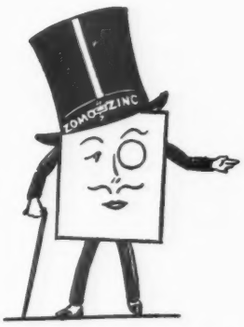
(*Continued on Next Page*)

How To Be Lucky This Summer



1. A four-leaf clover is said to bring good luck to anyone who finds it.

2. You may also be lucky if you find a horseshoe and hang it on a nail.



3. Engravers are lucky to be able to get, during wartime, genuine Zomo Electric Zinc. This metal is melted and cast in the electric induction furnace . . . famous for uniformity . . . saves costly make-overs.

4. A-Z Alloy also gives engravers a lucky break. This tough, quick-etching metal is ideal for long press runs, heavy mat duty, and fine screen work.

P.S. Zomo Electric Zinc and A-Z Alloy are not wartime substitutes. They are made by the electric induction process, with the same blend of metals, according to the same exacting prewar formulae. Order them now through your regular metal supplier.

ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

Manufacturing Company, East Pittsburgh, Pa. Application September 7, 1939. 3 claims.

2,349,659. WEB PROPELLING ROLLERS for printing machines. Two rollers, both having yieldable traction rings, are used, one at either side of the webs. The adjusting means may be so set that the traction rings will slip within the bodies of the rollers and there will be no slippage between the rings and the material passing between them. Web engaging components automatically adjust themselves to separately engage the web, so that webs of different thickness or unequal numbers of webs may be fed at end of the feeding roller, or, alternatively, the device will handle sheets that have been cut from a running web, folded or unfolded. Invented by William F. Huck, Richmond Hill, N. Y. Assigned to R. Hoe & Co., Inc., Bronx, N. Y. Application March 5, 1941. 21 claims.

2,351,264. POWER TRANSMISSION comprising two or more fluid pressure energy translating devices, one of which may function as a pump and another as a fluid motor. The system is adapted for use with a strip material handling device where the material is reeled and unreeled for operation thereon. The strip material may be sheet metal or, according to the patent, paper or cloth. The drive at the take-up reel is connected with the power absorbing means at supply reel so as to transfer this energy efficiently from one reel to the other with provisions for supplying any additional energy required to make up losses. Invented by Ferris T. Harrington and James Robinson, Detroit, Mich. Assigned to Vickers Incorporated, Detroit, Mich. Application September 23, 1940. 11 claims.

2,352,088. AUTOMATIC SHEET FEEDING mechanism for successively removing individual sheets from a stack and delivering them to other mechanisms adapted to operate on them; as, e.g., in the feeding of carton or box blanks, wrapper sheets, wrapper bands or labels subject to manipulation by carton or box making mechanisms, packaging or wrapping machinery. Convergingly inclined opposed magazines contain supply of blanks. A single pivoted extractor arm dependent between discharge ends of magazines is continuously oscillated to alternately withdraw blanks from magazine. A single blank receiving and advancing device is provided intermediate the magazines and aligned with medial position of oscillated extractor arm to receive blanks therefrom. Invented by Harry L. Evans, Newport, R. I Assigned to United States Automatic Box Machinery Co., Inc., Roslindale, Mass. Original application November 29, 1939. Divided and this application January 27, 1942. 9 claims.

Miscellaneous:

2,349,561. METHOD OF PRINTING A FABRIC with an ingrain azo color, which comprises laying down a wet non-acid print on the fabric from a thickened printing paste containing an azotisable amine, a soluble nitrate, and a coupling component, all in particles of no greater than microscopic size, and passing the fabric, while the print is still wet, into an acid ager. The printed fabric is maintained in the ager until diazotization and coupling has occurred, and the printed fabric is finished in conventional fashion. This process eliminates the present practice of drying the cloth and rewinding after printing and before acid ageing, since the cloth goes directly into acid ager after printing in order to get the desired color value. Invented by William B. Reynolds, Elmhurst, Long Island, and Sylvester A. Scully, Yonkers, N. Y. Assigned to Interchemical Corporation, New York, N. Y. Application May 1, 1941. 3 claims.

2,351,933. METHOD OF TRANSFERRING PRINTED MATTER, produced by silk screen process, letter press, or offset lithography, and enabling it to be shifted from a removable backing to glass, wood or metal in making name plates, signs, etc. The transfer includes a backing having a waxed surface, such as waxed paper. Water-soluble adhesive is applied to this surface to form a printing surface. Separate and independent indicia are printed on the water-soluble adhesive whereby indicia may be transferred to a third surface by moistening transfer. Indicia comprise laminations of lacquer-like material having enclosed therebetween a pigmented layer, that portion of the backing between the indicia being free from lacquer-like material, and a layer of soluble adhesive covering indicia and backing and adapted to secure indicia to third surface, the adhesive between the indicia being capable of being removed from third surface by a solvent. Invented by William W. Decker and Charles G. Schnibben, Chicago, Ill. Unassigned. Application February 2, 1942. 2 claims.

Plate Making:

2,349,613. MICRO-POROUS RESILIENT PRINTING PLATE of rubber in web form in which the resilient body acts as a reservoir and as a conductor for ink which is supplied to the type face through the pores. The main body of plate is coarsely micro-porous and the printing surface is finely micro-porous, the two layers being bonded together so that ink passes readily from one layer to another. The laminated supporting web is formed of comminuted vulcanizable rubber containing a comminuted solid filler (preferably sodium nitrate), the particles of the two layers being of different size. The rubber is vulcanized and the filler is removed by dissolving. Invented by Robert G. Chollar, Dayton, Ohio. Assigned to The National Cash Register Company, Dayton, Ohio. Application February 12, 1942. 36 claims.

2,349,819. MULTICOLOR PRINTING described as for book or periodical pages, posters, etc., and involving preparation of a set of printing blocks. An object is to combine monochrome into a multicolor image or print, which consists in the following steps: (a) Preparing photographically from the negative set a set of separate fixed-dimension positive colored monochrome intermediates of different printing colors (pigmented inks may be used) complementary to the selected colors; and, (b) preparing photographically from such respective monochrome intermediates without color separation a set of printing blocks for printing with such complementary colors chosen to match the colors of the intermediates respectively. The monochrome intermediates comprise the respective color images carried on non-distortable white supports for viewing by reflected light, with which the engraver may directly compare the respective ink printed images for trueness of colors. Invented by William Grancel Fitz, New York, N. Y. Assigned to Economy Oil Trucking Corporation, New York, N. Y. Application June 12, 1941. 7 claims.

2,349,900. METHOD OF FORMING PRINTING PLATES for making color reproductions of line copy, wash drawings, photographs, or combinations. Steps of the process are: Forming a negative of the copy, printing the negative on a sensitized metal plate, placing thereover a plurality of superimposed transparent sheets, marking color notations on the first sheet constituting a color guide sheet, tracing on the second sheet the outlines of areas on the print to be reproduced in color, adding detail to desired portions of such areas by applying a transparent shading sheet having detail thereon, and then producing a printing plate using the transparent sheet and attached shading sheet as a negative. Endless Ben Day, half-tone and character effects can be incorporated photographically in silk screen work. Invented by Albert R. Bourges, New York, N. Y. Unassigned. Application June 10, 1940. 8 claims.

2,350,516. PREPARATION OF HALFTONE NEGATIVES from which printing plates are to be formed. The negatives are photo-automatically produced so that highlights are devoid of screen pattern. This is accomplished by manually applying transparent color over the halftone areas of the subject to be reproduced, and treating a negative element in two registering exposures to light from the subject. One exposure is made through a screen to register gradations of the halftone areas and the other exposure is made with the screen effectually removed and with light which is absorbed by the transparent color, the negative element being sensitive to both lights. Invented by Walter S. Marx, Jr., Santa Barbara, Calif. Assigned

(Continued on Page 56)

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to Printing Arts Research Laboratories, Inc., Santa Barbara, Calif. Application July 29, 1942. 6 claims.

2,350,704. ROUTING MACHINE used when reproducing various forms of printing material such as cuts or printing workpieces. The machine is designed to accurately reproduce a pattern in a zinc plate and to firmly guide and support the tracer stylus and the routing tool in a predetermined ratio. Depth of the cut may be regulated. The machine is operated by a foot treadle, by which the pantograph mechanism is operated in two directions, thereby minimizing the hand operation of the stylus over the type or pattern as well as the movement of the routing tool with respect to the workpiece or stylus. Invented by Albert E. Schnable, Ocean Grove, N. J. Unassigned. Application October 4, 1941. 11 claims.

2,351,586. APPARATUS FOR ELECTROPLATING CYLINDERS whereby thin copper shells taken from rotogravure cylinders, that have been etched and served their purpose, may be used as anode copper for the plating of same or another cylinder. The used cylinder is divested of its embracing copper shell by slitting the shell longitudinally and stripping same. Shell may be then either slit longitudinally into strips of convenient widths or folded transversely to appropriate size and flattened between rollers. The shell is then associated with one or more frames which are of arcuate form or so disposed that their axes are common to axis of cylinder to be plated. Frames are immersed into electrolyte and the copper shell thereupon becomes the anode of the electroplating apparatus. Invented by Silas Coulson, Jackson Heights, N. Y. Unassigned. Application December 20, 1941. 8 claims.

Printing Inks and Related Chemicals:

2,349,282. COMPOSITION IN SOLID FORM for coloring organic derivatives of cellulose, organic solvents, oils, resins, lacquers, printing pastes, etc. Use of the previously known dispersing agents is dispensed with. The composition is made by dissolving a water-insoluble coloring agent in a water-soluble amide having a melting point of at least 50° C. and preferably above 100° C. Acetamide is melted and when liquefied, dry powdered 1,4-diaminoanthraquinone is added to form a solution. Upon cooling a purple crystalline cake is obtained. The product is dissolved in hot water and diluted to proper dye bath concentration. Invented by Jean G. Kern, Buffalo, N. Y. Assigned to Allied Chemical & Dye Corporation, New York, N. Y. Application February 25, 1939. 16 claims.

2,349,546. PROCESS FOR CONTROLLING CHANGES IN OIL, such as linseed oil, china-wood oil, perilla oil, or soybean oil, which takes place when it is being cooked to convert it into varnish, printing inks and coating compositions. The varnish oils are cooked in the presence of a small quantity of castor oil. They become bodied in ½ to ¼ the time required to produce heavier bodies, the film-forming properties of the resulting varnishes are improved, and the acid and iodine values are directly controllable in relation to amounts of castor oil used. Invented by Wells W. Ginn, Cincinnati, Ohio. Assigned by mesne assignments to Vejin, Inc., a corporation of Ohio. Application October 17, 1941. 4 claims.

2,349,557. PREPARATION OF NEW AZO PIGMENTS AND DYES by mixing an ice color coupling component and the reaction product of an ice color diazo component with an alkylol or alkoxyalkylol derivative of dicyandiamide. As such this mixture may or may not be colored. If a textile material is printed or impregnated with this mixture and then heated with an acid, the acid hydrolyzes the stable diazo compound, splitting it into its components. The regenerated diazotized component liberated couples with the ice color component to form an azo pigment or dye. Acetic acid, esters, etc., are used. Invented by Paul P. McClellan, Old Greenwich, and Walter P. Ericks, Stamford, Conn. Assigned to American Cyanamid Company, New York, N. Y. Application August 27, 1942. 5 claims.

2,350,147. PRODUCTION OF AN ADDITIVE TERPENE ETHER, useful as a solvent and softener in coating compositions and printing inks. Method comprises reacting an alcohol (e.g., ethylene glycol, glycerol, etc.) with an unsaturated terpene compound (e.g., pinene) in the presence of sulfamic acid as catalyst. Invented by Joseph N. Borglin, Wilmington, Del. Assigned to Hercules Powder Company, Wilmington Del. Application July 29, 1942. 19 claims.

2,350,350. PREPARATION OF DI-[BETA-(HYDROXYETHOXY) METHOXY] ETHANE by reacting 310 parts of ethylene glycol with 30 parts by weight of formaldehyde in the presence of 3 parts by weight of sulfuric acid under reflux temperatures. Catalyst is neutralized with a methanol solution of sodium methoxide. Product is obtained by distillation. It is useful as a softener and plasticizer for printing inks, as solvents and assistants for converting dyestuffs into pastes, as emulsifying agents, useful in printing textiles, and for many other processes. Invented by William F. Gresham, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application May 6, 1941. 9 claims.

2,350,360. PREPARATION OF GLYCOL GLYCOLATE, glycerol glycolate or glyceryl glycolate by reacting a glycolide with glycerol or glycol. A lower alkyl ester of any oxy-substituted acetic acid is reacted with a polyhydric alcohol. Products are useful as the major ingredients in preparation of printing pads and ink feeders of all types, as penetrating agents for printing pastes, and as major ingredient in preparation of inks for printing paper, textiles, wood and metal. Invented by Donald J. Loder, Wilmington, and Wilber O. Teeters, Roselle, Del. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Original application May 6, 1939. Divided and this application January 25, 1940. 11 claims.

2,350,453. PRODUCTION OF SUBSTITUTED GUANIDINE AND BIGUANIDE SALTS useful in formulation of printing inks, dye pastes, for depositing rubber latex emulsions on cloth, as wetting, emulsifying and flotation agents, emulsifier for resins, softeners for leather, etc. One example is: Acetic acid is added to monoethylolamine. Solution is warmed and mono-octadecylcyanamide is added. Mixture is stirred and heated at 125 - 130° C. for two hours to form a uniform viscous liquid, which on cooling is a tan-colored wax. Product is 1-ethylol-3-octadecylguanidine acetate. Invented by Walter P. Ericks, Stamford, Conn. Assigned to American Cyanamid Company, New York, N. Y. Application March 4, 1942. 2 claims.

2,350,520. PRODUCTION OF PIGMENTS of both lake and non-lake form useful in printing inks, paints, enamels, etc., and having properties and features formerly obtainable in either azo pigment dyestuff or azo pigment dyestuff lake, without sacrifice of desired properties. The azo pigment dyestuff is associated with new soap combinations such as a mixture of water-insoluble metallic soap of rosinic acids and water-insoluble soap of fatty type acids, or water-insoluble metallic soaps of rosinic and fatty type acids in chemical combination. Invented by Grady M. O'Neal, Chicago, Ill. Assigned to The Sherwin-Williams Company, Cleveland, Ohio. Application March 17, 1943. 29 claims.

2,350,521. MIXTURE OF SPECIAL WATER-INSOLUBLE METALLIC SOAP formed from both rosinic acid and fatty type acid, useful in treating pigments, as in process of patent 2,350,520, the applications of these two patents having been co-filed. The amount of rosinic acid is at least one part by weight to four parts by weight of fatty acid, and the soaps are in intimate association as a result of one having been formed in presence of the other. Invented by Grady M. O'Neal, Chicago, Ill. Assigned to The Sherwin-Williams Company, Cleveland, Ohio. Application March 17, 1943. 18 claims.

2,350,522. PROCESS OF FORMING AZO PIGMENT DYESTUFFS useful in inks, coating compositions, etc. Particles of the pigment dyestuff are suspended in an aqueous medium in their water-wet condition retained from formation. Particles are associated with a water-insoluble metallic soap derived from rosinic acid and fatty acids by converting water-soluble soap of the acids to water-insoluble form in the presence of the suspended particles. Pigment is recovered with insoluble soap. Invented by Grady M. O'Neal, Chicago, Ill. Assigned to The

(*Continued on Page 58*)

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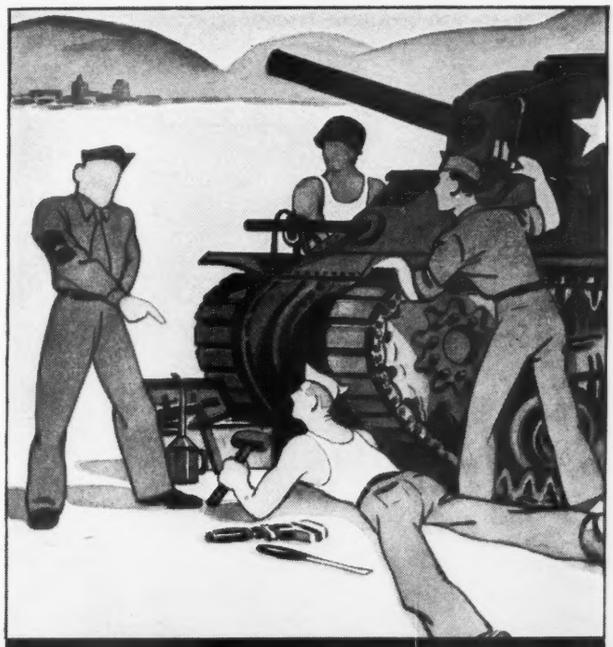

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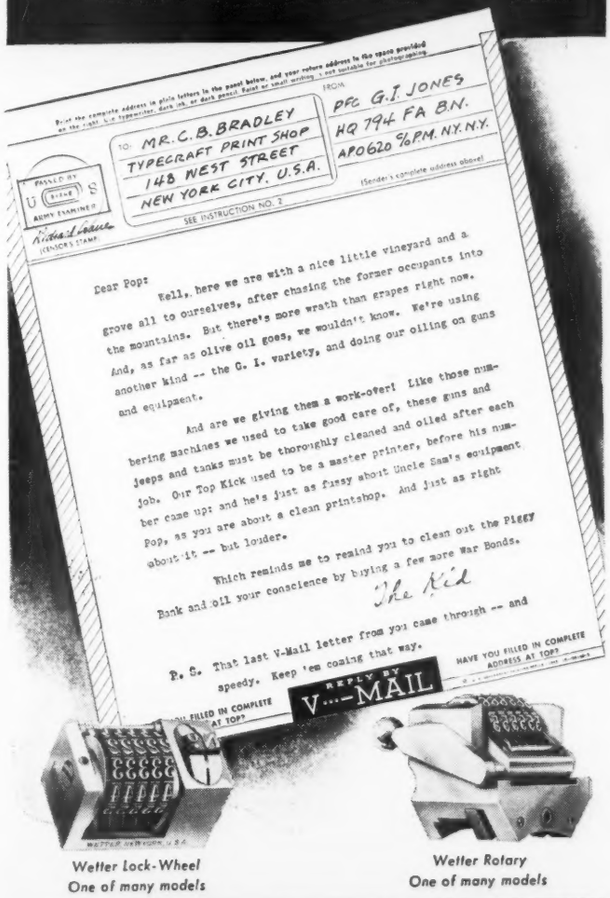
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FROM: Pfc G.I. JONES
HQ 794 FA B.N.
APO620 %P.M. N.Y.N.Y.
SEE INSTRUCTION NO. 3
Dear Pop:
Well, here we are with a nice little vineyard and a grove all to ourselves, after chasing the former occupants into the mountains. But there's more wrath than grapes right now. And, as far as olive oil goes, we wouldn't know. We're using another kind -- the G. I. variety, and doing our oiling on guns and equipment.
And are we giving them a work-over! Like those numbering machines we used to take good care of, these guns and jeeps and tanks must be thoroughly cleaned and oiled after each job. Our Top Kick used to be a master printer, before his number came up; and he's just as fussy about Uncle Sam's equipment about it -- but louder.
Which reminds me to remind you to clean out the Piggy Bank and oil your conscience by buying a few more War Bonds.
The Kid
P. S. That last V-Mail letter from you came through -- and speedy. Keep 'em coming that way.
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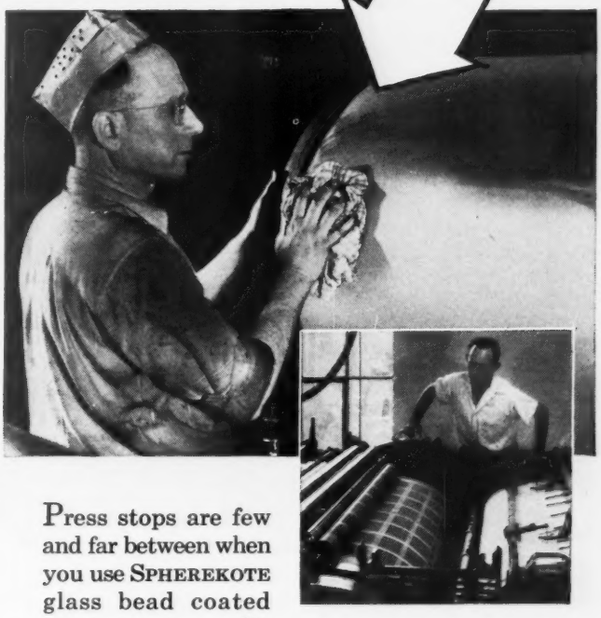

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PATENT REPORT

(Continued from Page 56)

Sherwin-Williams Company, Cleveland, Ohio. Application March 17, 1943. 27 claims.

2,350,523. SALT FORMS OF AZO PIGMENT DYESTUFFS and lakes having a soap substratum, useful in printing inks, coatings and enamels. The water-soluble soap for forming the substratum is added to slurry. The strike or pigment slurry is added to a hot salt solution containing from 10%-90% of total amount of metal equivalent necessary completely to convert both soluble soap or soaps and the incompleted pigment dyestuff form. The necessary proportion of metal salt is added and temperature is raised. Invented by Grady M. O'Neal, Chicago, Ill. Assigned to The Sherwin-Williams Company, Cleveland, Ohio. Application March 17, 1943. 37 claims.

2,350,524. IMPROVED AZO PIGMENT DYESTUFF COMPOSITION and coatings made therefrom such as inks, paints and enamels made by associating and retaining salt electrolyte with the pigment, or the soap, or both during the manufacture of either soap or azo pigment dyestuff, or both. An object is to associate pigment dyestuff, salt electrolyte and water-insoluble metallic soap at any stage prior to completely dispersing azo pigment dyestuffs in a non-aqueous liquid vehicle for a coating composition. Invented by Grade M. O'Neal, Chicago, Ill. Assigned to The Sherwin-Williams Company, Cleveland, Ohio. Application March 17, 1943. 22 claims.

2,500,525. PROCESS OF MAKING AN AZO PIGMENT DYESTUFF COMPOSITION suitable for use in coatings such as inks, paints and enamels, by preparing an azo pigment dyestuff, separately preparing a water-insoluble, rosinic-fatty type acid metallic soap as a free-flowing powder and physically mixing the two powders. Invented by Grady M. O'Neal, Chicago, Ill. Assigned to The Sherwin-Williams Company, Cleveland, Ohio. Application March 17, 1943. 38 claims.

2,350,526. WATER-INSOLUBLE METALLIC SOAPS OF ORGANIC ACIDS which are condensation products of rosin or abietic acid with unsaturated aliphatic acids having up to, but not more than, two carboxyl groups. The soaps are especially adapted for association with azo pigment dyestuffs and coating compositions made therefrom, such as inks, paints, and enamels. Invented by Grady M. O'Neal, Chicago, Ill. Assigned to The Sherwin-Williams Company, Cleveland, Ohio. Application March 17, 1943. 18 claims.

2,350,846. TREATMENT OF CARBON BLACK for use as a pigment in the preparation of liquid coating compositions such as enamels, paints, inks, etc., an object being to produce coatings of improved drying characteristics. Treatment involves wetting the carbon black with an aqueous solution or suspension carrying an inactivating compound, comprising an inorganic salt of chromic acid, for rendering carbon black less reactive with respect to the drier compound, and then removing excess moisture by drying. Invented by Max R. Vogel, Easton, Pa., and John W. Snyder, Scotch Plains Township, Union County, N. J. Assigned to Binney and Smith Company, New York, N. Y. Application December 5, 1941. 18 claims.

2,350,847. TREATMENT OF CARBON BLACK for use as a pigment in the preparation of liquid coating compositions such as enamels, paints, inks, etc., this being similar to preceding patent. The inactivating compound used in the process of this patent comprises a water-soluble inorganic salt of hydrochloric acid, instead of the inorganic salt of chromic acid of the previous patent. Invented by Max R. Vogel, Easton, Pa., and John W. Snyder, Scotch Plains Township, Union County, N. J. Assigned to Binney and Smith Company, New York, N. Y. Application December 5, 1941. 18 claims.

2,500,955. PIGMENTED RESIN useful in compounding paints, enamels, lacquers and inks (such as used in intaglio, rotogravure and lithographic processes) wherein the pigment is uniformly dispersed throughout resin during making of resin without grinding the pigment in order to effect dispersion. An alkyd resin is made by reacting polybasic acids and polyhydric alcohol with fatty acids wherein the fatty acid is initially mixed with the pigment, such as carbon black, lamp black, etc., to bring about a thorough coating of pigment particles with fatty acid. Coating functions as a wetting agent bringing about thorough deflocculation and dispersion. Coated pigment is refluxed with a solvent for several hours and the solvent is removed by distillation. Invented by Folsom E. Drummond, Westfield, N. J. and William A. Waldie, Oakwood, Ohio. Unassigned. Original application August 26, 1934. Divided and this application October 8, 1942. 8 claims.

2,350,960. IMPROVEMENTS IN THE MANUFACTURE OF CHROMIC OXIDE PIGMENTS, including a new fluffy chromic oxide (Cr_2O_3) which has distinctive oil absorption properties, and which is valuable in printing inks, colored paper, and wallpaper printing, and in heat resistant and sun- and weather-resistant paints, in oil, water, mortar colors, ceramics, glass, porcelain enamels, etc. Method comprises gradually adding a solution of an alkali chromate to a boiling alkaline emulsion of sulfur in a sodium sulfide solution and regulating the alkalinity so as to maintain it substantially uniform throughout the process. Invented by Marc Darrin, Baltimore, Md. Assigned to Mutual Chemical Company of America, New York, N. Y. Original application June 7, 1938. Divided and this application May 9, 1940. 4 claims.

2,350,964. POLYHYDRIC ALCOHOL ESTERS of alkoxy and alkoxy methylene substituted acetic acid, the invention also including esters of glycolic acid, etc., used in the preparation of printing inks, as solvents for certain dyestuffs and pigments, in the preparation of wetting and dispersing agents, etc. Process comprises alcoholysis of a lower (alkyl) ester of acetic acid having the empirical formula $ROCH_2COOH$ in which R is a radical from the group consisting of hydrogen, alkyl, and alkoxy-alkylene groups, with a compound from the group consisting of glycerol and alkyl ethers thereof. Invented by Donald J. Loder, Wilmington, and Wilber O. Teeters, Roselle, Del. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application June 14, 1940. 13 claims.

2,351,118. PRIMARY POLYAZO COMPOUNDS OF THE PHTHALOCYANINE SERIES useful for conversion into pigments. They are prepared by diazotizing tetra-amino-copper phthalocyanine and coupling the resulting polydiazo compound with a coupling component such as naphthol-sulfonic acids, the amino-naphthol-sulfonic acids, the aryl-pyrazolone-carboxylic acids, the sulfo-aryl-pyrazolones and the N-substituted amino-naphthol-sulfonic acids. The compounds are converted into lakes by barium chloride, etc. Invented by Norman Hulton Haddock, Blackley, Manchester, England. Assigned to Imperial Chemical Industries Limited, a corporation of Great Britain. Application July 15, 1942. 11 claims.

2,351,119. POLYAZO COMPOUNDS OF THE PHTHALOCYANINE SERIES, useful as pigments, which may be used in paints and printing inks. They are produced by coupling a polydiazonium copper-phthalocyanine to an azo coupling component devoid of water-solubilising radicals. The latter include the naphthols, the acyl-acetarylides, the 1-aryl-3-methyl-5-pyrazolones, the arylamides of 2,3-hydroxy-naphthoic acid and the arylamides of 2-hydroxy-carbazole-3-carboxylic acid. Invented by Norman Hulton Haddock, Blackley, Manchester, England. Assigned to Imperial Chemical Industries Limited, a corporation of Great Britain. Application July 15, 1942. 9 claims.

2,351,133. NEW WATER-SOLUBLE MONOAZO DYESTUFFS which are useful in dyeing and printing acetate artificial silk. An example is: 13.8 parts of p-nitroaniline are diazotized in the known way and the diazo solution so obtained is added to a cooled aqueous solution of 28.7 parts of the sodium salt of succinic half-ester of N-ethyl-beta-hydroxy-ethylaniline containing sufficient sodium carbonate to keep coupling mixture alkaline to litmus during additions. New dyestuff is isolated by adding 1 kilogram of sodium chloride to each 10 litres of coupling mixture and filtering. Dyestuff is then dried. Invented by Arthur Howard Knight, Blackley, Manchester, England. Assigned to Imperial Chemical Industries Limited, a corporation of Great Britain. Application December 23, 1938. 6 claims.

(*Continued on Page 60*)

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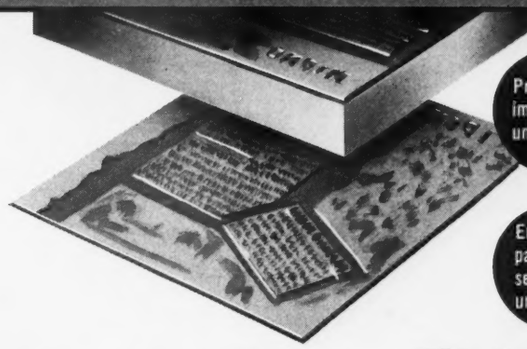

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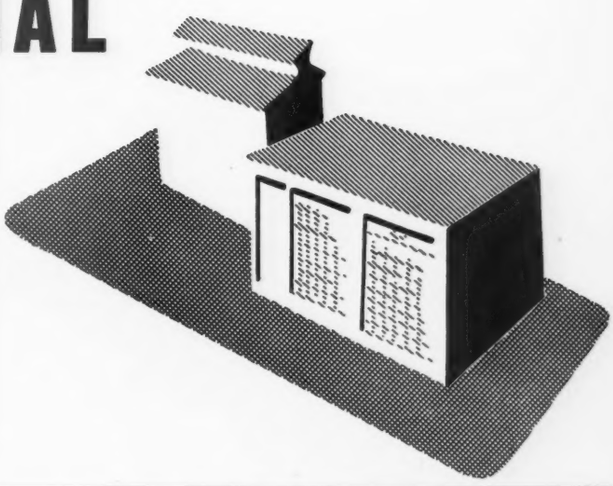


TWO RIVERS WISC.

HAMILTON MANUFACTURING COMPANY

PATENT REPORT

(Continued from Page 58)

2,351,585. THERMO-FLUID PRINTING INK for use with "Cold set" printing process, for newspapers, magazines, etc. At ordinary temperatures it is solid and free from objectionable tack or stickiness, and melts about 155°. It is obtained by incorporating a coloring pigment such as carbon black in normally solid vehicles containing hard thermo-plastic resin as a principal ingredient. This resin may be 25% to 40% (of the vehicle) of cumarone resin and 15% to 30% gilsonite, the former exceeding the gilsonite and the combined resin exceeding a 3% to 45% of hydrogenated soya bean oil and a small amount of hard wax. Hard wax can be carnauba wax, candelilla wax, montan wax etc. Invented by Frank G. Breyer, Wilton, Conn. Assigned to J. M. Huber, Inc., New York, N. Y. Application July 11, 1940. 4 claims.

Printing Presses and Equipment:

2,349,718. SPECIAL-PURPOSE ROTARY PRINTING PRESS for printing or manufacturing and binding a collection of flexible glass clear leaves standing in certain relation to one another and carrying on both sides nontransparent double pictures presenting different images when viewed from the front and from the back of each leaf, the images being disposed at least partly within the same contour. The printing moulds are made by photomechanic methods and are printed on a continuous web of flexible glass clear artificial foil, single or double pictures being applied simultaneously at both sides of the web during one passage of operation of machine. Intaglio printing units are provided for printing on one side of the web and acrography ("high-writing") printing units are provided for the other wide of web. The web is dried in the machine and finally cut into sheets. Invented by Friedrich-Wilhelm Georg Gravenstein, Berlin, Germany. Assigned to Transart Aktiebolag, Goteborg, Sweden. Application May 24, 1940. 2 claims.

2,350,016. MEANS FOR SECURING A "MASTER," or flexible printing plate, upon the drum of a rotary printing machine of the type using the direct image lithographic process or the offset lithographic process. (See assignee, below.) The securing means are so placed that the operator may use both hands to position the master, then while holding it in place with one hand, the other may be used to activate securing means which are permanently located upon the drum and so arranged that they may be shifted by one hand. Invented by Franklin E. Curtis, Willoughby, Ohio. Assigned to Addressograph-Multigraph Corporation, Wilmington, Del. Application August 15, 1942. 20 claims.

2,350,089. BEARING SHIELD for printing presses, particularly rotary intaglio printing mechanisms. The shield is designed to protect the cylinder shaft from ink which may fall from the rotating cylinder. The device is in the form of a scraper blade which is mounted at an angle to the axis of the shaft and at an angle greater than 90° with respect to a plane transverse to the axis of the shaft on the side toward the cylinder, and includes means to urge the scraper blade against the cylinder shaft. Invented by Alfred Behringer, Wanaque, N. J. Assigned to Alco-Gravure Division of Publication Corporation, New York, N. Y. Application May 22, 1943. 8 claims.

2,350,505. PRINTING PRESS ROLL STRUCTURE which is designed to properly feed sheets to be printed or lithographed between the cylinders and to assure that cylinders are maintained in proper position for efficient printing action. There are provided fluid pressure operated mechanisms to control position of ink form rolls, and valves for controlling these with a wide range of selectivity. In order to enable the ink form rolls to be properly positioned with respect to both the ink roll and the plate cylinder, their journals, by the present invention, are made readily adjustable both radially and circumferentially with regard to the plate cylinder. Invented by George Goebel, deceased, late of Baltimore, Md., by Helene Goebel, administratrix, Baltimore, Md., and Eibe A. Wilckens, Baltimore, Md. Assigned to Crown Cork & Seal Company, Inc., Baltimore, Md. Original application October 1, 1936. Divided and this application May 3, 1940. 12 claims.

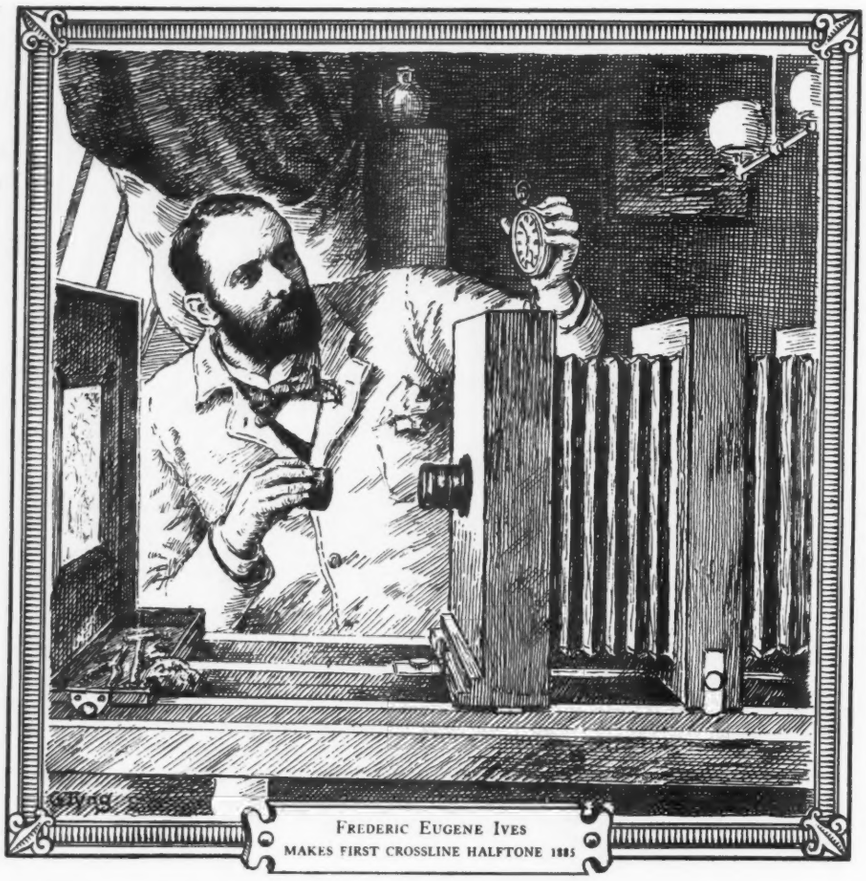
2,350,580. AUTOMATIC UNI-DIRECTIONAL FOUNTAIN DRIVE for use in printing presses, particularly color printing presses in which the direction of rotation of printing couples of unit proper are subject to reversal. Drive is also suitable where one of printing couples is rotated in one direction while other is rotated in other direction or both printing couples are rotated in same direction. Novel gearing is provided which eliminates the necessity of manual changes and which automatically always drives ink fountain roll in same direction regardless of direction of rotation of related printing couple which governs the drive for fountain roll. Invented by James L. Blackley and William P. V. Ross, Battle Creek, Mich. Assigned to The Duplex Printing Press Company, Battle Creek, Mich. Application September 19, 1942. 17 claims.

2,350,585. NOVEL STEREOTYPE PLATE CLAMPING MEANS for the plate cylinders of cylinder printing presses adapted to hold thereon in a positive manner printing plates of arcuate length sufficient to extend more than half way around plate cylinder. The clamp, adaptable to a reduced end of plate cylinder, includes several retractible plate clips mounted in slots in plate supporting surface of cylinder. Clips are simultaneously operable by a single element to retract all clips from plate engaging position into retracted position within slots of cylinder, and vice versa. This element comprises a jack screw mounted in reduced journal of plate cylinder and projecting beyond end being held against axial movement in journal and operating a ring slidably mounted on reduced end of cylinder. When wrench is applied to jack screw, the latter will be rotated and ring moved axially, thus actuating all clip actuators of plate clips. Invented by Albert James Carpenter, Jr., Battle Creek, Mich. Assigned to The Duplex Printing Press Company, Battle Creek, Mich. Application August 20, 1942. 17 claims.

2,351,012. AUTOMATIC UNI-DIRECTIONAL FOUNTAIN DRIVE for printing presses, particularly color printing presses, which eliminates necessity for manual operation to change direction of rotation of the fountain rollers, and which automatically drives them in the same constant direction regardless of direction of rotation of the associated printing couple that governs the drive of the fountain roll. Novel intermediate drive comprises a drive shaft (to be driven in either direction), a driven shaft driving the fountain roll, a pair of printing couples consisting of two impression cylinders rotated in opposite directions by drive shaft, and clutch means acting in the same direction for causing rotation of driven shaft in a constant direction by whichever cylinder is rotating in that direction. Invented by Albert J. Carpenter, Jr., Battle Creek, Mich. Assigned to The Duplex Printing Press Company, Battle Creek, Mich. Application October 8, 1942. 10 claims.

2,351,013. AUTOMATIC UNI-DIRECTIONAL FOUNTAIN DRIVE for printing presses which, as in the preceding two patents, automatically drives ink fountain roll in same constant direction regardless of direction of rotation of related printing couple. A pair of bevel gears journaled

(Continued on Page 62)



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PATENT REPORT

(Continued from Page 60)

on the drive shaft mesh with a bevel gear on the ink drum and are driven thereby in opposite directions. Clutch means mounted on shaft between and cooperating with respective bevel gears act in the same direction for causing rotation of fountain drive shaft in a constant direction by whichever gear of the pair is rotating in that direction. Invented by Albert J. Carpenter, Jr., Battle Creek, Mich. Assigned to The Duplex Printing Press Company, Battle Creek, Mch. Application October 31, 1942. 12 claims.

2,351,030. INTAGLIO PRINTING APPARATUS for the printing of postage, revenue, and other stamps, and securities such as bonds, stocks, etc., from delicately engraved metal plates. An object is to provide mechanical means for wiping and polishing an inked plate preliminary to printing therefrom, which will reduce wear of the printing surface. This is accomplished by wiping and polishing cylinders having suitable surface finishes, which are simultaneously slowly rotated and axially reciprocated. Alternate cylinders are rotated in opposite directions. A travelling cloth beneath cylinders removes surplus ink gathered by them in wiping over printing plate surfaces and the wiped and polished plate is then presented for the printing operation. Invented by Fernando Fernandes, Mexico City, Mexico. Unassigned. Application June 27, 1941. 10 claims.

2,351,274. REGISTERING DEVICE for printing, successively, copy in two colors. A flexible covering which may be readily mounted on or removed from a cylindrical registering cylinder is used. The registering cylinder revolves over and its pinions mesh with toothed racks on edges of a copy holding tray. Type elements, preferably rubber, are arranged face down on the copy sheet and have adhesive on their backs. As surface of tray is spaced from under surface of roller a distance equal to thickness of type elements, when registering cylinder is rotated over copy, it picks up the type elements by adhesion and they are thus arranged upon covering in proper position. Covering may then be removed and placed upon printing cylinder. Invented by William L. McCarter, Hanford, Calif. Unassigned. Application November 9, 1942. 5 claims.

2,351,301. IMPROVED PLASTIC COMPOSITIONS comprising partial esters of polyvinyl alcohol which are soft, but highly elastic and resilient and suitable for the manufacture of printing rollers, printing blankets, hectograph pads, etc., the compositions having great resistance to printing ink solvents. Article is composed of a partial ester of polyvinyl alcohol wherein 15 to 65% of the hydroxyl groups are esterified, and a plasticizer consisting of a polyglycol containing 4 to 20 carbon atoms, such as diethylene glycol. Mixture comprises 35% to 50% by weight of the alcohol and 65 to 50% of the glycol. Invented by Harold Marvin Sonnichsen, Niagara Falls, N. Y. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application September 2, 1941. 8 claims.

2,351,315. DEVICE FOR ADJUSTING A DOCTOR BLADE as a whole while the fountain is operating or at rest, to regulate the ink supplied by fountain roll by increasing or decreasing the distance between the free edge of doctor blade and fountain roll. Adjustment is made without disturbing the relative positions of the usual local adjusting devices along the blade. The doctor blade is provided with blocks depending from the front portion of blade. Blocks rotatably support screws which have a threaded engagement with the bottom member of the fountain. The front member is secured to bottom member of fountain by screw bolts. The free portion of the blade as a whole may be adjusted by swinging the support with its row of adjusting screws without disturbing their relative adjustment to one another, and thus obtain the exact quantity of ink to be fed by the fountain roll. Invented by Howard M. Barber, Pawcatuck, Conn. Assigned to C. B. Cottrell & Sons Company, Westerly, R. I. Application June 11, 1942. 3 claims.

2,351,612. PRINTING PRESS in which the printing rolls carry resilient printing plates, such as rubber or rubber composition and in which the form inking rollers associated with printing rolls are provided with metal or other rigid surfaces for transferring ink to the resilient printing plates. The apparatus for inking the resilient printing plate comprises a rigid cylinder for attaching the printing plate, another rigid cylinder adapted to be covered with a film of ink and a resilient vibrator roller to distribute ink, and means for kissingly contacting the raised printing indicia of plate with the inked rigid cylinder. Invented by John F. Hawley, Riverside, Ill. Unassigned. Application May 16, 1941. 5 claims.

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ANPA CONFERENCE

(Continued from Page 52)

been consumed. With respect to showthrough he stated he had seen the equivalent of showthrough in the 30 lb. paper in the 32 lb. paper.

Sidney Weiskittel, Pressroom Superintendent of the Cincinnati *Enquirer*, attempted several times to keep the discussion going on 30 lb. paper. He asserted that "The 30 lb. paper is more uniform in texture over a 66 in. web. We have had more success in operating it over the anglebars than we did with the 32 lb. paper."

Chairman Burns next brought up the topic: *Use of Chrome Plating to Prolong Life of Machine Parts*. Apparently, no one cared to discuss the subject, but Mr. Burns did observe that he had had knives chrome plated in a folder and they have lasted five times longer. He wanted to obtain the experience of others with chrome plating machine parts to prolong their life.

Mailroom Session

T. A. CORCORAN, Purchasing Agent of the Louisville *Courier-Journal* and *Times*, presided at the Mailroom Session, Tuesday evening, June 13. The constantly increasing mechanization of

Printers are among the most critical craftsmen in any trade or profession. They take personal pride in the production of a fine piece of printed matter—whether it be a profusely illustrated four-color job, or just a plain black-and-white reproduction.

But all the skill of the artist, the typographer, the engraver, and the master pressman are of no avail—if the ink is not *synchronized* to the job.

Herricks inks are *custom-made,* carefully compounded to meet the special requirements of every individual job. Type and lines come up clean and sharp; halftones reproduce with well-molded shadows and substances.

ENGINEERING SERVICE

Consult a Herrick engineer on any printing problem that presents a difficulty. His advice costs you nothing and it might mean the difference between profit and loss.

HERRICK *Inks*

WILLIAM C. HERRICK INK CO., INC.

Main Office and Plant

EAST RUTHERFORD, NEW JERSEY

ZINK CUT CEMENT PRICES in the United States: 75c per large tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots.

Booth's Zink Cut Cement

(1) Made for the one purpose of fastening all kinds of cuts to wood or metal base.

(2) No waste—no muss.

(3) Most efficient and most economical cut mounting means in the world.

(4) Keeps indefinitely in the tube in which it is packed.

(5) Cuts are fastened exactly as indicated in the advertiser's layout.

(6) Eliminates the worries caused by lost or misplaced cuts.

BOOTH'S BLACK RUBBER ROLLS

For line-composing machine keyboards are as resilient as it is possible to make them. These rolls are concentric from end to end when applied properly on the shaft. Trial pair, $1.45. Per dozen price, $7.75.

Please place on your purchase orders for Booth products the CMP Reg. 5 certification with the symbol AA-2; MRO, which has been granted to the printing and publishing industry for the purchase of maintenance, repair and operating supplies.

THE E. A. BOOTH RUBBER COMPANY

364 ROCKEFELLER BUILDING • CLEVELAND, OHIO

the mailing profession was reflected in the addresses and discussions.

After an address on *Mailroom Layout* by H. M. Jampol of The Jampol Company, a discussion was precipitated after he had mentioned there would be a new newspaper stuffer placed on the market after the war. He understood the machine will handle 10,000 papers per hour. He said he was not the developer and had promised not to make known the name of the manufacturer. Statements were made from the floor that there had not been a new stuffer developed in 15 years. The Helverson stuffer which is in use in some plants handles 5000 papers per hour.

Wallace-Star Tying Machine

Chairman Corcoran read a paper prepared by R. E. Wallace of the Toronto (Ont.) *Star*, on the Wallace-Star baler for wire-tying newspaper bundles. The machine has been developed by Mr. Wallace and T. R. Sykes, also of the *Star*. After Chairman Corcoran had read the paper on the description and operation of the wire-tying machine, questions from the floor were answered by Mr. Sykes.

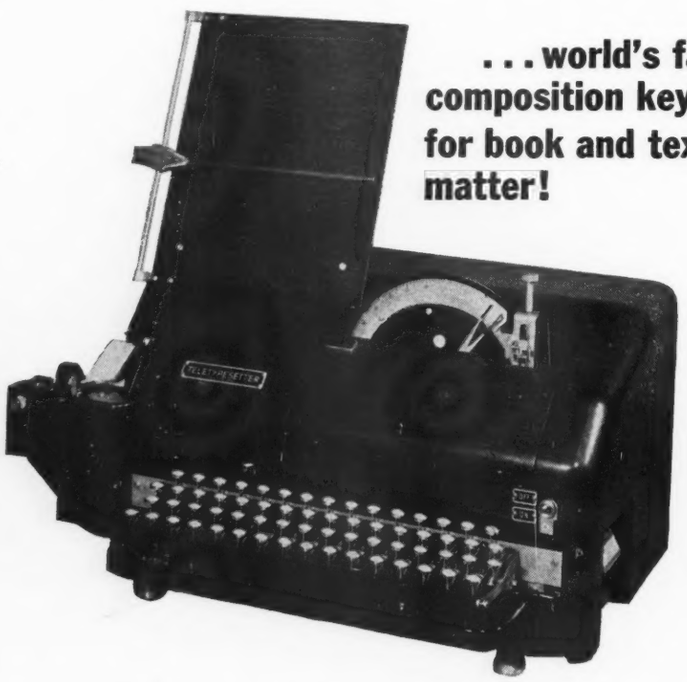
The Wallace machine measures 2½ ft. by 7 ft. by 8 ft. high. The machine uses 15 ga. wire and has a capacity of 15 bundles per min., but in operation usually handles 12 bundles per min. The machine welds electrically the lapped ends of the wire passed around the bundle.

The machine is fully automatic. One man presses a button to start the compression, wire wrapping around the bundle, the cutting-off and the welding of the lapped wire ends. With 200-paper bundles, six men are used to load and empty the machine at 12 bundles per min.

Mr. Sykes stated that the illustrations of the Wallace machine shown to the assembly represented the experimental model and that a redesigned machine was now in the *Star's* experimental shop. He stated that the machine is used only for the *Star's* weekly. Mr. Sykes stated the machine is not on the market.

Following the period in which Mr. Sykes answered questions from the floor, Vice President Adolph Larsen of the Gerrard Steel Strapping Co., stated his company had two machines in development. One of these machines will have a capacity of 20 bundles per min. It will provide easier working conditions for mailroom workers. The Gerrard machine will weigh approx. 500 lbs., will be portable and can be plugged into any light socket. The other machine is semi-automatic, two of them now being used in the mailing department of the Chicago *Herald-American*. The services of two men are required to operate the semi-automatic machine at from 10 to 12 ties per min.

THE MULTIFACE PERFORATOR



. . . world's fastest composition keyboard for book and text matter!

Punch a tape with the *Multiface Perforator*, place the tape in the Operating Unit, and then let the line composing machine turn out the slugs *automatically*. That's all there is to the Teletypesetter method of line composition for commercial printers.

Bodoni, Caledonia, Garamond, Scotch, Vogue and all the other popular text faces from 5 to 14 points can be set by this method, because the *Multiface Perforator* can be quickly adapted to count and justify most of the fonts run on standard machines.

Speeds far above those possible by manual operation are the rule with Teletypesetter. The *Multiface Perforator* steps up keyboard work considerably, and the Operating Unit keeps the composing machine running continuously at top speed. Fifty to 100 per cent greater output means composition costs cut nearly in half.

Teletypesetter with the *Multiface Perforator* is not an experiment—it has been in daily use for more than six years in several commercial plants. It is not available now but will be after the war. Write for information.

TELETYPESETTER CORPORATION
1400 Wrightwood Ave., Chicago 14, Ill.

To speed Victory, buy War Bonds regularly!

TELETYPESETTER
REG. U. S. PAT. OFFICE

Engraving, Art and Photography Session

AFTER a few preliminary remarks on Wednesday morning, June 14, wherein he discussed the importance of the session, A. H. Burns, general chairman, turned the meeting over to Maurice Hagan, the group chairman.

Mr. Hagan outlined the morning program and then introduced Harris B. Tuttle of Eastman Kodak Co., who spoke on the subject, *What Should We Expect From a Color Print?* The first portion of Mr. Tuttle's talk was devoted to the technicalities of color in the making and its reproduction by Kodachrome and color prints. While this portion of the talk was scientific in nature, all polysyllabic technical terms were avoided with the result that a dry subject was made interesting and informative.

Following this, a group of color slides were shown to illustrate the practical difficulties encountered in color photography and how to avoid or minimize them. Color temperature of light was explained and then demonstrated with slides so that any amateurs in the audience could easily understand it. This combination of sun lighting plus sky reflection, has been given an arbitrary scale rating so that actual measurements can be taken for accurate lighting and

Now... As Always

CROMWELL SPECIAL PREPARED TYMPAN

is Unconditionally Guaranteed

The making of QUALITY tympan is a highly specialized occupation. To create a paper of such precision and stamina . . . immune to moisture and oils . . . demands skill, experience and essential ingredients and equipment.

Thus it is particularly fortunate that, despite limitations and handicaps due to the war effort, we can still maintain our pre-war standards and say . . . "Now, as always, CROMWELL Special Prepared TYMPAN is unconditionally guaranteed."

Available at your distributor in rolls or sheets cut to fit any high speed press.

CROMWELL'S 4 OUTSTANDING FEATURES

1. **Hard, uniform surface.**
2. **High tensile strength.**
3. **Proof against oil and ink solvents.**
4. **Proof against moisture and extremes of temperature.**

THE CROMWELL PAPER COMPANY
4901-39 SO. WHIPPLE ST., CHICAGO 32, ILL.

SURE THERE'S A WAR ON

The printing craft know it, by probably more than their share of headaches. The demand is up . . . paper down in quantity and quality. But printers are doing their job and doing it well—it's an old habit with them just as with Johnson Inks. For 140 years Johnson Inks have helped their printer friends meet the challenge of hard days and happy days too.

CHARLES ENEU Johnson AND COMPANY

GOOD INKS SINCE 1804

Philadelphia • New York • Chicago • Boston • St. Louis • Cleveland Detroit • Baltimore • Kansas City • Pittsburgh • Atlanta • Dallas

exposure. The color effect of the sun's rays alone was shown in slides, also the effect of reflection. Under and over exposure effects where shown and explained.

Of great interest to the audience was the showing of the effect of borders upon Kodachrome pictures in either white space or color. This series of slides covered a practical problem that must be met when newspapers print color in profusion. The color density of a subject can be varied tremendously by the color border—or depth of white space—surrounding the subject.

Jack Kelt of Mallinckrodt Chemical Works, thoroughly covered the subject of *Making Color Plates for Newspaper Printing*. During the course of his address, he referred frequently to two large boards upon which were displayed reproductions of numerous subjects. The speaker covered graphically the results achieved by the various color methods in use today. Mr. Kelt did not indulge in "future dreams", but keyed his talk to the level of the average mechanical man's comprehension of the subject of making plates for newspaper color printing.

He said the most important thing to remember in making color plates for newspaper printing is to separate the tones and take out the under colors. He said: "Probably the most difficult hurdle to overcome in making color plates for newspaper printing is to leave in too much color on all plates in the mistaken belief that it will look better that way. In

View in section of the mailroom, Toronto (Ont.) *Star*. In foreground is shown experimental model of the *Wallace-Star* baler for wire-tying newspaper bundles. Shown at the machine is T. R. Sykes, engineer, who assisted the inventor, R. E. Wallace in developing the device. At the right are shown bundles of the *Weekly Star* on skids, ready for shipment. These bundles have been tied by the Wallace machine. The machine shown here is an experimental model and has been redesigned. The machine measures 2½ ft. by 7 ft. by 8 ft. high. In operation, 15 ga. wire is used to wrap the bundles. Machine is fully automatic. Upper part of the machine shows ram mechanism which compresses the bundles. The lapped ends of the wire encircling each bundle are welded electrically. Although the machine has a capacity of 15 bundles per min., Mr. Sykes stated about 12 bundles per min. are obtained in actual operation.

other words, most of us would attack the problem as if we were making Irish stew —the more stuff we put in the better it will be."

The speaker urged executives to know the limitations of their medium. The medium is a newspaper press, newsprint stock, a 60 line screen and "diluted tar" (ink) . . . . When we say 'Take out the undercolors' we don't always mean to cut them out completely. Rather the meaning is to subdue them until they have no effect on the main color. When two or more colors come together in a particular area they cannot all be of the same strength—one must predominate above the others."

Mr. Kelt discussed various means for color reproduction, among them being a simplified method for producing color plates from separation negatives. Assuming that the engraver has the color separation negatives, Mr. Kelt said that the color print method he was describing has been used for many years in the label industry for making postcards, etc. He gave it as an adaptation of the process for making color plates for newspaper printing. It is fast, cheap, flexible and requires no additional equipment such as floor stand cameras, prisms, etc. He exhibited some 11 in. by 14 in. paper prints made by Grant Photo Products Co., called Air Map Special Enlarging Type. The prints made upon this stock, said he, hold the size and register.

In discussing the simplified method, Mr. Kelt said: "There will always be some corrections to be made, and these or most of these should be done on the photo print. It is much easier to retouch a photo print than it is to retouch a negative or film positive—and it is also much easier to retouch a photo print than it is to re-etch a zinc plate."

In referring to the use of color in daily news stories in the future, the speaker stated that color will not be used as such with the present knowledge we now have about making color plates. Color is possible for Sunday editions, magazine sections and the like. Color is also possible on a schedule of 48 hours, but not less."

The substance of Mr. Kelt's address was encouraging to the average newspaper executive to get into color printing for newspaper reproduction through the simplified method described and without unnecessary complications or extra equipment.

The Photo-Cast process[1] as developed in the Gannett laboratories, was discussed at length by C. W. Bennett of the Gannett Research Laboratories, Rochester, N. Y. In this method, a special emulsion paper film is exposed, developed and then stripped on a thin copper sheet. After removal of the paper strip-film support, the gelatine is swelled and is hardened. It is then placed in a hydraulic press where a thermosetting plastic plate is molded from the photographic plate. All delegates were invited to see a practical demonstration of the method at the Cleveland *Press*. Some excellent examples have been produced by this method under the supervision of W. F. Alexander, engraving superintendent with the cooperation of Stereotype Superintendent George Fuller.

Stanley Myers, Art Director of the Philadelphia *Bulletin*, discussed the Kromolite drop-out method in the light

[1]See page 66, December 1943 Printing Equipment Engineer, article fully explanatory of the Photo-Cast halftone reproduction method.

Repeat Casts!

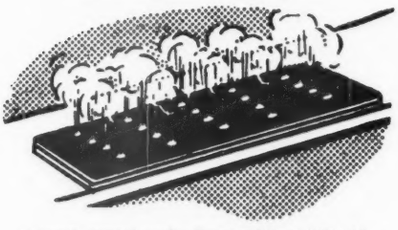
You'll get plenty of casts from Burgess Chrome Mats. They are made to stand up and deliver. The last cast is as sharp as the first. You'll be able to get more casts too. Switch to Burgess . . . and watch the difference.

A Laboratory Product
BURGESS Chrome MATS

THIS ADVERTISEMENT PRINTED FROM PLATE MADE FROM A BURGESS TONE-TEX MAT

BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats
FREEPORT • ILLINOIS
Pacific Coast Representative
RALPH LEBER CO. 426 Polson Bldg. SEATTLE. WASH.

STEREOTYPE PERFORATED GUMMED PACKING FELT
Important where considerable shrinkage is employed

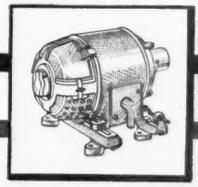


Manufactured under Patent No. 1,967,444
Is More Flexible • Forms with the Mat • Dries Faster • Sets Instantly
Send for a Trial Order Today—Sheets or Cut Strips
American Publishers Supply
P. O. Box 924 Lynn, Mass.

THE
PRODUCT OF NEARLY A HALF
CENTURY OF SPECIALIZATION

KIMBLE

CUSTOM-BUILT MOTORS

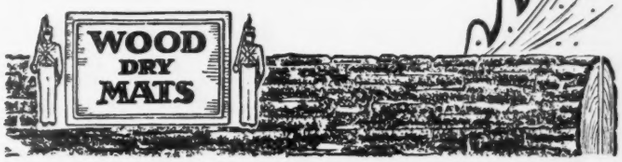


KIMBLE ELECTRIC
Division of Miehle Printing Press & Mfg. Co
2005 WEST HASTINGS STREET
CHICAGO 8, ILLINOIS
DISTRIBUTED BY: AMERICAN
TYPE FOUNDERS

RIGHT FROM THE WOOD

RIGHT from Wood Flong's plant, come a wide variety of mats suited to the individual reproduction requirements of many newspapers. Right also, is the practical advice and cooperation given newspapers by Wood Flong service representatives. This Wood combination—right from start to finish—has proved helpful to many newspapers in obtaining outstanding reproductions.

WOOD FLONG CORPORATION
HOOSICK FALLS, NEW YORK
New York City Office: 551 Fifth Avenue



of the experience of the Philadelphia newspapers. He described the method employed to educate artists to use the simple hilite solution in place of water. When the drawing is finished, the engraver sprays another clear solution over the entire drawing. A yellow-green color is produced wherever wash has been laid on the copy. The engraver uses a light yellow filter to balance the tones, then uses a blue filter to drop out the whites. On combination copy a single line mask is used and flashing is done under the mask to preserve the identity and sharpness of the lines. Mr. Myers used simple, but effective, illustrations to show the difference in results between opaquing, masking and Kromolite methods.

Walter S. Marx, Jr., of the Printing Arts Research Laboratories, discussed the Fluorographic method as a modern time saving method. In this method, a solvent is used in place of water when the artist prepares the wash drawing. The engraver photographs the copy and then places a deep blue-violet filter over the lens for the drop-out exposure. Mr. Marx showed a series of slides to illustrate how the method produces a finished negative. The slides were of halftone screen, enlarged so that all screen formation could be seen clearly.

George Wiley, engraving superintendent of the Dayton (O.) *Journal-Herald*, confirmed Mr. Marx's statements regarding this process.

A beautifully illustrated booklet was presented to each delegate by the speaker.

Advertising & Color Printing Session

THE Advertising and Color Printing Session was presided over by John W. Park, Production Manager of the Chicago *Tribune*. Chairman Park introduced the only scheduled speaker on the program, James H. Gibson. Mr. Gibson a long-time photo-engraver, of the Joseph J. Reilly Co., New York, described the Bac-Etch process of premakeready for newspaper advertising plates. Briefly, to make an engraving by the Bac-Etch method, the face of the plate is prepared and etched in the conventional manner, after which the same image, reversed, is produced on the back of the same plate in precise register with the top surface. The back image is produced with all highlights and disconnected middletones dropped out, and all connected middletones and shadows solidified. The face of the original engraving is now protected and the back is etched to controlled depth. The original is pre-bumped to recess the highlight and middletone areas to the depth etched out on the back of the plate. All stereo mats, shell stereo casts, electros and plastic plates subsequently made from the Bac-Etch original will contain the premakeready feature incorporated into the pre-bumped engraving. Accordingly, newspaper press plates carry the premakeready provided in the original engraving.

Highlight of Session

What might be considered the highlight of this session was a list of suggestions to be followed in preparing plates for newspaper advertisers. Chairman Park presented a list of suggestions to advertisers which, if followed, will provide improved reproduction of newspaper copy. The suggestions are as follows:

(1) In preparing newspaper copy differentiate sharply in highlights, middletones and background. Supply more contrast in copy than is desired in newspaper reproduction, to make up for unavoidable loss resulting from stereotyping and the use of soft press packing. (2) Don't prepare copy for large reductions. (3) Eliminate cutout areas in halftone portions where possible. (4) Use rules around halftone areas where possible. (5) Ink should be dried properly on engraver's proofs and too much ink should be avoided. (6) Original plates should be 65 line or 75 line screen depending upon the copy. (7) Plates should be etched at least 0.005 in. in the highlights. (8) Dots should be etched as straight down as possible. (9) In routing and finishing, there should be a depth of 0.025 in. in the non-printing areas. (10) All routing tool burrs should be removed. (11) Proofs should be taken on news-

PRINTING MACHINERY

Specialist

We are seeking a man who is thoroughly familiar with all types and sources of Printing and Bindery machinery and equipment. One who has wide contacts among printers and in the equipment field will find an unusual opportunity. Ours is an important name in the Graphic Arts Industry. The job is big enough for the best available man in the Printing Equipment Field. W M.C. rules observed. Reply Box No. 204.

MORRILL

BLACK NEWS INKS

For High Speed Presses

LEAD the world in volume because they lead in **performance!** The richer, deeper, true-black pigment makes it a joy for readers' eyes. Famous for free-flowing and uniform coverage of solid areas . . . clean, decisive type edges . . . crisp, sparkling halftones . . . quick-setting with absolute minimum of offset.

GEO. H. MORRILL CO.

Div. General Printing Ink Corp.

100 SIXTH AVENUE · NEW YORK, N. Y.

print. (12) Plates should be packed well, preferably in a carton to avoid damage in shipment.

Other recommendations mentioned by Mr. Park were that mats intended for plate reproduction should be dried on the form wherever possible. The etching of thin zinc plates in combination work is not recommended because of insufficient depth when reproduced in mats. Avoid the use of old type. Avoid using too small type or fine letters in reverse backgrounds because of difficulty in reading.

Chairman Park invited comments from the audience. The Milwaukee *Journal* suggested that proofs of plates be sent with advertising mats in all cases.

George Dearnley, Production Manager of McCann-Erickson, Inc., New York, recommended that practice and said he felt sure the average agency does send proofs with plates or mats. He said the combined meetings of the AAAA with other interested groups at all times are conscious of the need for helping mechanical executives to print a better newspaper.

L. Pinover, Intaglio Service Co., New York, among other things, stated he has observed that the trend in gravure sections is to black ink. In the postwar period, gravure will be turned into magazine sections with type in quantity. Type printed by gravure is easier to read when printed in black ink.

Kenneth Kessler of the Greater Buffalo Press, spoke on the objectives to be attained through the adoption of a standard size for comic pages. He also espoused a standard register mark. If syndicates would reduce their comics to a smaller size, a saving of 1 in. space on each page, or 4 in. across the web on 4 pages would be possible. He suggested that syndicates use a uniform layout sheet indicating exact size and incorporate register marks as well. Chairman Park replied that the committee appointed from the ANPA Mechanical Committee some time ago investigated the subject and found that mechanical design of equipment in many plants prevents standardization of comic sizes.

The plant that standardizes on the

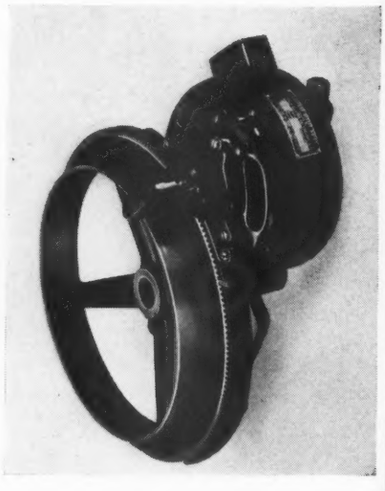
CUSHMAN (OFFSET) MOTOR

stays out of trouble!

★

Parts Catalog and Instruction Book now available

★



Cushman Motor Division

LINOTYPE PARTS COMPANY

WEATHERLY, PENNA.

100% Automatic

SLUG SAWING WITH MOHR SAW

Now, more than ever, Mohr saw owners appreciate the important savings in time, made possible by this automatic slug saw. Slugs are cut to any desired length as they are ejected from the linecasting machine. 100% automatic operation. Accurate and speedy.

Write for information about the Mohr Measure Control Unit — the quick, measure designing feature which makes possible instant and precise adjustment of slug length.

MOHR LINO-SAW COMPANY

126 N. Union Avenue Chicago 6, Ill.

SYNTRON

"Vibrating"

PAPER JOGGERS

Speed up the job
Eliminate unnecessary effort
Cut Labor costs

Made in 4 sizes
— from a small 14" x 20" deck table model, up to a big 28" x 40" deck floor model.

Write for details

SYNTRON CO. 577 Lexington, Homer City, Pa.

Get Dust
"ALL-OUT"
with a
TORNADO
PORTABLE ELECTRIC BLOWER

IN your all-out defense against dust danger and damage, use the TORNADO. Gets dust, dirt and lint *all out* of motors, linotypes, presses, folders. Makes motors and machines last longer. Also convertible for vacuum-cleaning of shelving, paper stock and type cases. Adaptable for spraying paint and insecticide. Keep your costs down — your profits up — by keeping your plant clean with a TORNADO.

Write for details and Free Trial Offer!

TAKE THE DUST OUT OF DUSTRY — With BREUER'S BALL BEARING **TORNADO** PORTABLE ELECTRIC BLOWER

BREUER ELECTRIC MFG. CO.
5114 N. Ravenswood Ave., Chicago

Challenge 1893 50TH ANNIVERSARY 1943

FIFTY YEARS OF QUALITY!

"CHALLENGE" has been the printers "buy-word" for fifty years. The manufacturing of quality Printing Machinery and Equipment has become our *habit* . . . you can choose CHALLENGE with confidence. Write for data—NOW!

THE CHALLENGE MACHINERY CO.

Main Office and Factory: GRAND HAVEN, MICH. ★ Eastern Sales Office: 50 Church St., NEW YORK

DUPLEX PRESSES

Semi-Cylindrical • Unitubular
Tubular • High Speed Flat Bed
Flat Bed • Stereo Machinery

The Duplex Printing Press Co.
Battle Creek, Mich.

Graphic Roller Bulletin

Designed by A. E. Theobald, Chicago, a four-page illustrated bulletin about Ideal Graphic Non-Meltable Rollers has been issued by Ideal Roller & Mfg. Co. In the bulletin are presented properties of Graphic Rollers, how and where they are to be used, with instructions for cleaning and care as well as operating instructions. This bulletin is another in a series designed to inform personnel in the Graphic Arts field. There have been many changes in this field and man of the precautions which have become second nature to experienced men are entirely unknown to new workers. It is Ideal's plan, in issuing this type of bulletin, to relieve management of any part of the detailed education required in a printing plant by including technical information which should be possessed by all printing plant personnel having anything to do with the purchase, operation and care of rollers.

WPB Notes

Dutton, Ross and Murray Advanced

APPOINTMENT of Meiric K. Dutton as assistant director of the Printing and Publishing Division, Robert D. Ross as assistant director for commercial printing and Joseph A. Murray as chief of the Distribution Section of the Division has been announced.

Mr. Dutton, of Baltimore, Md., had 21 years' experience in book, commercial and rotary printing, and magazine design, and as consultant in printing, prior to joining the Printing and Publishing Division in May, 1942. He was consultant in printing management to the Royal Printing House, P. A. Norstedt and Sons, Stockholm, Sweden, in 1928-29. For five years prior to joining the Division, he was assistant to the president in charge of manufacturing at the Baltimore Salesbook Company. During the past two years, he has been successively chief of the Book Manufacturing Unit, acting chief of the Book Section, and chief of the Distribution Section of the Division. In his new position, Mr. Dutton will be responsible for coordinating the activities of sections of he Division and will take over certain administrative duties.

Mr. Ross, of Chicago, who joined the staff of the Division six months ago as consultant in commercial printing production, was connected with R. R. Donnelley & Sons Company of Chicago for eight years. He succeeds Philip S. Schneider, of Dayton, Ohio, who resigned recently to accept a commission in the U. S. Marine Corps Reserve. As consultant, he was closely associated with Mr. Schneider in the work of administering commercial printing and its related orders. As assistant director for commercial printing, he will be chief of that section and will be administrator of Order L-241, Commercial Printing and Duplicating; Order L-289, Greeting Cards and Illustrated Post Cards; Order L-294, Displays; and Order L-177, Wallpaper.

Mr. Murray, who heads the Distribution Section, wil have charge of all priority and CMP activities of the Division. He entered Government service seven days before Pearl Harbor and has held the position of chief of the Commercial Printing Section of WPB's Printing and Publishing Division for the past nine months.

Prior to entering Government service, Mr. Murray was associated for nine years with the C. E. Sheppard Company, Long Island City, N. Y., manufacturers of loose leaf devices, printers and system designers.

Printing Press Manufacturers Industry Advisory Committee

MEMBERS of the newly appointed Printing Press Manufacturers Industry Advisory Committee met for the first time with officials of the War Production Board in Washington during the week of June 19 to discuss proposed

WAGE WAR ON WASTE
WITH THE
RIEHLOCK
No-String Tie-up System
ADJUSTABLE TIE-UPS
GALLEY END LOCKS
GALLEY SIDE LOCKS
Write for Free Sample Kit
THE RIEHL GALLEY LOCK CO., Inc.
1312 Ontario Street Cleveland 13, Ohio

changes in Order L-226, which regulates printing trades machinery, parts and supplies.

The membership of the new advisory committee follows:

Robert Corlett, Goss Printing Press Co., Chicago, Ill.; Donald Cottrell, C. B. Cottrell & Sons, Milwaukee, Wis.; Arthur Dressel, R. Hoe & Co., Inc., New York; J. E. Eddy, Miehle Printing Press & Manufacturing Co., Chicago, Ill.; D. W. Frackelton, Chandler & Price Co., Cleveland, Ohio; C. A. Meisel, Meisel Press Manufacturing Co., Boston, Mass.; W. G. Montgomery, Miller Printing Machinery Co., Pittsburgh, Pa.; S. H. Rosenberg, Thomson-National Press Co. Franklin, Mass.; J. H. Richmond, Potdevin Machine Co., Brooklyn, N. Y.; Julius Schmutz, Schmutz Mfg. Co., Louisville, Ky.; D. J. Scott, Walter Scott & Co., Plainfield, N. J.; I. K. Stone Duplex Printing Press Co., Battle Creek, Mich.; J. W. Valiant, Harris-Seybold-Potter Co., Cleveland, Ohio; and E. G. Williams, American Type Founders, Inc., Elizabeth, N. J.

Ink Manufacturers' Problems Receive Special Consideration

THE special problems confronting printing ink manufacturers as a result of chemicals shortages, which have become more serious in recent weeks, are being given careful consideration by officials of the Chemicals Bureau.

Chemicals Bureau officials informed WPB's Printing Ink Manufacturers' Industry Advisory Committee, that although the situation regarding chrome pigments was difficult, the Government hopes to maintain present quotas through the summer—which represents the danger point from the standpoint of relative supply.

In order to provide Chemicals Bureau officials with information on which to base their controls, some members of the committee who have special problems owing to the shortage of synthetic resins—both alkyds and maleics—agreed to inform the Chemicals Bureau immediately regarding their difficulties.

There is little change in the supply picture as to organic and titanium pigments. With nearly all the phthalic anhydride going to the military, the officials informed the committee that the supply of certain colors will inevitably be affected, especially phloxine toners, rhodamines, madder lake and phloxine pigments. 75 per cent of the titanium pigments are now going to the military.

Members of the committee reported that as a result of the synthetic resins shortages they have greatly increased their consumption of rosin since the start of the war and that they are now encountering supply difficulties.

Increased Machinery Production Not Likely

THE outlook for an increase in the production of graphic arts machinery is "not very bright", a WPB spokesman for the Printing Machinery Section of the Printing and Publishing Division said recently because of the large number of machinery manufacturers now occupied with war work. In the fourth quarter of 1943, a report showed that 86% of the manufacturers were converted to war work.

A survey of the larger manufacturers showed that 85.8% of their shipments were for equipment that can be classified as war-related, leaving only 14.2% of their total output available as replacements of worn-out or broken-down machinery or for repair parts to keep badly worn machines in operation.

The printing equipment situation was reported by a WPB representative as relatively easy. Sufficient quantities of brass, copper and wood are on hand to meet the needs of the printing industry.

No Reduction in Paper

ON the basis of military requirements as now scheduled, no substantial reduction is seen for third-quarter civilian allotments of paper for the printing and publishing industry, members of the WPB Printing and Publishing Labor Advisory Committee were told at a recent meeting held in Washington.

A slight increase in pulpwood output, especially in the southern forests, has been achieved by the use of approximately 7000 Italian war prisoners. However, WPB Paper Division representatives told the Labor Advisory Committee, correspondingly increased military demands for ammunition and for paper

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Specialist
We are seeking a man who is thoroughly familiar with all types and sources of Bindery machinery and equipment and who has wide contacts in the Printing and Bindery field. The man selected will be given every opportunity to develop our Bindery Equipment Division. Ours is an important name in the Graphic Arts Industry and the job is big enough for the best available man in the Bindery and Printing field. W.M.C. rules observed. Reply Box No. 203.

containers and wrappings have more than absorbed the increase.

The WPB representatives emphasized that the wastepaper salvage program in this country is rendered doubly necessary because there is no way of reclaiming thousands of tons of paper sent overseas in the form of shipping-containers for war goods.

30 lb. Newsprint Cut

IT now appears that the further manufacture of 30 lb. newsprint will be discontinued until there is an increase in Canadian pulpwood. In a report to the War Production Board on June 24, the special committee of United States newspaper publishers, which met with Canadian newsprint manufacturers in Montreal, recommended that WPB request Canada to restore its commitment of 200,000 T. of 32-lb. newsprint per month in the third quarter, rather than to continue the mixed-weight basis with a monthly sacrifice of at least 10,000 T.

The committee said it recognized that its recommendation would work toward a discontinuance of the use of 30-lb. newsprint, which was said to be a matter of deep concern. The members added that they believed their recommendations would provide the greatest amount of usable newsprint for all publishers and were prepared to postpone the advantages of the 30-lb. newsprint until the wood supply and other factors permit a safe resumption.

Duplicating Processes Included

THE commercial printing Limitation Order L-241 has been amended to include all duplicating processes as well as regular printing processes. This will require a reduction in the consumption of paper by all duplicating plants whether they are trade plant or self-contained plants operating by other types of industry. However, persons consuming less than 1¼ T. of paper per quarter will not be affected.

The method of paper curtailment of publishers of shopping guides and free distribution newspapers has been revised on a sliding scale comparable to the method of controlling consumption by newspapers under Order L-240.

Glue May Be Eased

IN view of the fact that producers' inventories of glue have been built up and that military requirements have decreased since allocation control of glue was established three months ago, the Chemicals Bureau of the War Production Board on June 19 reported that allocation control of glue may not be required starting with the fourth quarter of 1944. If the supply and demand pattern is not altered extensively during the summer months, they said, restrictions on the sale of glue may be lifted in the fall.

Members of the Glue Manufacturers Industry Advisory Committee, at a recent meeting, recommended that WPB conduct a survey of the industry early in August.

Conservation Order M-241 Amended

ADDITIONAL controls over production, distribution, delivery and use of paper and certain paperboards were effected by an amendment to Conservation Order M-241 the Paper Division of the War Production Board reported on June 8. Specific control of 100% of critical electric condenser tissue is assumed by WPB after July 1, and no consumer may accept delivery from a producer without specific authorization of WPB, officials of the Paper Division pointed out.

Reserve production of rag content papers is set up at 35% of production, instead of the regular 20% reserve applying to other papers and specific paperboards. Primary needs of the Army and

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Stocks in Principal Cities

Navy for preferred procurement, covering paper and paperboard, were established by amendments, to make sure that the military programs are not delayed by paper problems, WPB said.

Order M-241 as amended relinquishes control of folding and set-up box boards and certain miscellaneous paperboards to a new paperboard order (M-378) issued June 7. Control over asbestos papers is relinquished to Order M-79. Control over containerboard was transferred to Order M-290 some time ago.

Cardboards and pressboards, WPB said, remain under M-241 with a 20% production reserve.

Reprints Not Charged to Quota

A MAGAZINE reprint which is ordered and paid for exclusively by a department or agency of the United States Government will not be charged against the quota of the magazine publisher but may be produced under the Commercial Printing Order L-241, the War Production Board announced on June 15.

This action was taken in the issuance of Direction 1 to the Magazine Order L-244, the Magazine and Periodical Section of the WPB Printing & Publishing Division, explained.

Previously, it was not possible for such reprints to be made unless the amount of paper consumed was deducted from the quota of the publisher of the magazine in which the article originally appeared. This resulted in a reluctance on the part of the publisher to allow a government agency to reprint, and penalized the magazine in relation to the amount of paper available for its own use.

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The Hammond

Glider

3 GLIDERS

A MODEL FOR EVERY PLANT

FOR years composing room saws have been uncertain, unsafe, inaccurate, hard operating — far below the standard of other printing machinery. The Glider was designed and built to eliminate all this — in short, designed for unbelievable speed, ease, accuracy and safety. The advanced Glider features were immediately recognized by newspaper, composition and commercial plants — so that today the Glider is virtually the unanimous choice of all. With 3 Gliders, there is a size and type for every plant, purse and purpose. These Gliders are the result of Hammond's 60 years building specialized sawing machinery, including 6000 Hammond TrimOsaws.

BALL-BEARING TABLE: It glides — the Glider table is the easiest moving saw table ever built — it's smooth, and it actually glides on large steel balls operating in finely machined ways — the only high grade, accurate construction ever offered for composing room saws.

MICROMETER POINT-MEASURE GAUGE: Designed for quicker setting and permanent accuracy with longer sliding surfaces, natural hand grip, black and white scale, larger point dial, precision micrometer screw and wear take-ups.

SINGLE-ACTION CLAMP: Work is clamped with single downward motion. Clamp opens to 42 picas — holds as short as 8 points — removes from table with quarter turn of eccentric locking lever. Positive, unyielding, quick acting, non-fanning.

SAW ARBOR: Advanced adjustable, oil-sealed, permanently interlocked, double, oversize ball-bearing construction. Saw blades changed in 1/3 usual time by lock-bolt through center of saw arbor. Saw heads driven by three steel studs, not by threaded shaft.

SAW BLADES AND TRIMMER TOOLS: Two larger diameter (7") DuraBlades made from special alloy steel provide longer saw blade service. Three 1½" DuraSteel Trimmer Tools are securely locked by hardened steel wedges and set screws — not by set screws alone. Trimmer Sharpening Device maintains scientific cutting angles. Trimmer Setting Device automatically sets trimmers to correct cutting length in exact relation to saw blade.

V-BELT DRIVE AND MOTOR: Automatic V-Belt tension regulation provides smoother and more powerful drive. No idler pulleys, no slippage, no noisy belts. Fully enclosed belt guard. Accurately machined, balanced, and keyed "V" pulleys — plus first quality endless "V" belts provide the modern machine tool drive.

SAW RAISING AND LOWERING MECHANISM: By points and picas — two picas per one turn of handle. Operated by micrometer screw and designed for permanent rigidity and accuracy. Only the Glider incorporates this advanced raising and lowering modern machine tool construction.

SAFETY: Designed for speed, ease and accuracy, the Glider TrimOsaw has extra safety features. In addition to the usual guarding of the saw blade, the Glider provides fully enclosed guarding of belts, pulleys, grinding wheel, motor and a thumb guard is provided on the gauge. Table is equipped with rubber bumpers.

SPECIFICATIONS

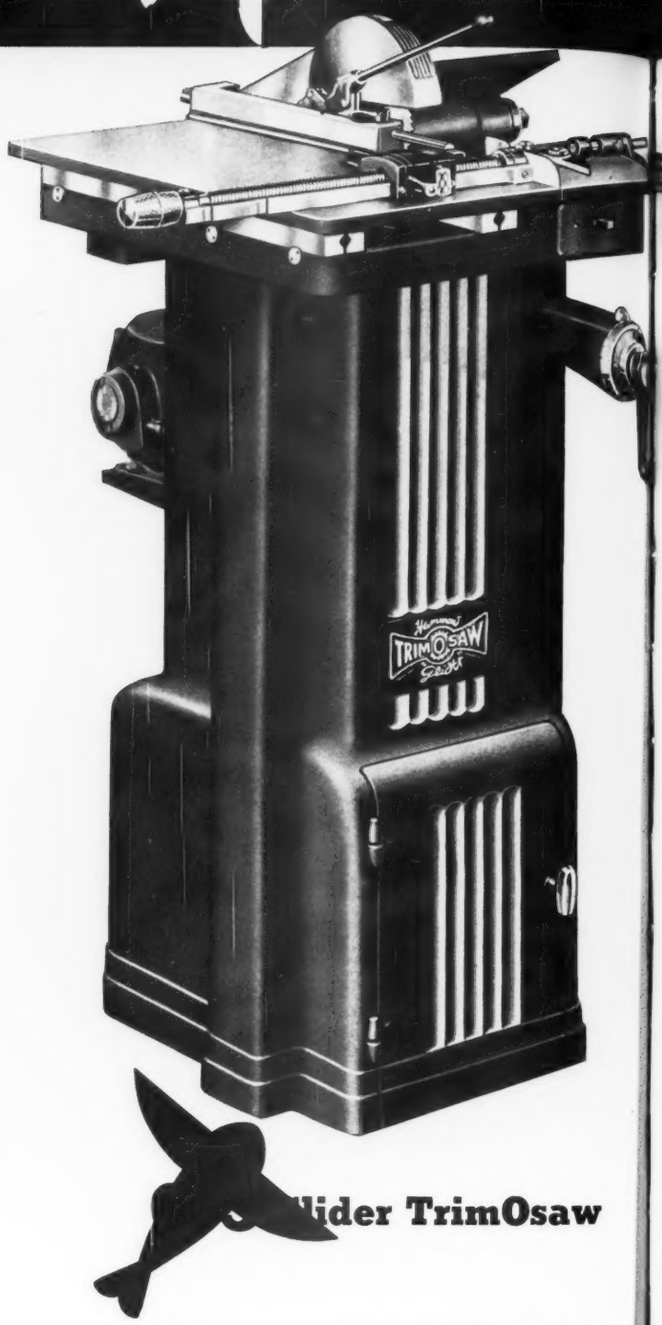
	G-3	G-2 & G-2F	G-22 & G-22F
Gliding table dimensions	12½" x 22½"	10" x 21"	10" x 21"
Over-all table dimensions	21" x 22½"	18½" x 21"	18½" x 21"
Floor space required	30" x 67"	30" x 59"	27" x 59"
Diameter of saw blades	7"	7"	7"
Number of driving belts	2	1	1
Motor size	½ HP	⅓ HP	⅓ HP
Clamp opening capacity	42 ems	42 ems	42 ems
Smallest measure clamp will hold	8 pts.	8 pts.	8 pts.
Micrometer gauge capacity	78 ems	78 ems	62 ems
Height of floor models	38"	38"	38"
Height of bench models	.....	10"	10"
Capacity in front of saw	18½"	14"	14"

(Full page capacity in front of saw obtained on G-3 by undercutting and on G-2 and G-2F with special attachment.)

SHIPPING WEIGHTS:

Bench Model	.....	400 lbs.	370 lbs.
With Strip Material Cabinet	.....	540 lbs.	510 lbs.
With Steel Cabinet	.....	520 lbs.	490 lbs.
Floor Model	750 lbs.	720 lbs.	690 lbs.

SPECIAL EQUIPMENT: Model D Any-Angle Sawing and Mitering Gauge for base material and rule, 135-Pica Micrometer Gauge in place of standard gauge at time of order, 178-Pica Extension Point-Measure Gauge for G-3 and G-2 (162-Picas for G-22), 78-Pica Micrometer Gauge in place of 62-Pica Gauge on G-22 at time of order, See-Thru Guard (can be furnished in place of Flexible Lighting Fixture at time of order on G-2 and G-3 but not on G-22), Chip Buggy (only special with G-22 and G-2 Steel Cabinet), Saw Grinding and Truing Device, Hammond All-Purpose Blades.



lider TrimOsaw

THE MODEL G-3 HAMMOND GLIDER TRIMOSAW is the "original" Glider. It introduced in composing room saws, such revolutionary features and improvements that today it is the virtually unanimous choice of America's best plants because of its greater speed, ease of operation and accuracy. While all three Hammond Gliders have the same advanced features, the Model G-3 is the larger, all-purpose model. For example it has 25% greater table area, ½ HP Motor, and double V-belt drive.

STANDARD EQUIPMENT: 78-Pica Micrometer Gauge, Micrometer Gauge Finger, Positive Single-Action Workholder Clamp, Two 7" dia. DuraBlades, Two Saw Heads, Three DuraSteel Trimmer Tools, Aluminum Saw Guard, Trimmer Setting Gauge, Trimmer Sharpening Device, Flexible Lighting Fixture, Chip Buggy, Flat Grinding Wheel, Two Heavy-Duty V-Belts, Fully Enclosed Belt Guard, ½ HP Motor (any electrical specifications desired), Miter Vise, Swivel Batter and Line-Up Gauge, Tool Board, Oil Stone, Oil Can, Screw Driver, Brush and Complete Set of Wrenches.

G-2 Glider TrimOsaw

G-2 is Bench Model

THE MODEL G-2F HAMMOND GLIDER TRIMOSAW is a fine all-purpose composing room saw. This Model is identical with Model G-22 in size but it has a 78-Pica Gauge plus a point-system raising and lowering saw arbor, making it suitable not only for the sawing and trimming of slugs, rule and border, but also for the squaring, sawing and mortising of type-high and shell plates. Available as Bench Model G-2.

STANDARD EQUIPMENT: 78-Pica Micrometer Gauge, Micrometer Gauge Finger, Positive Single-Action Workholder Clamp, Two 7" dia. DuraBlades, Two Saw Heads, 3 DuraSteel Trimmer Tools, Aluminum Saw Guard, Trimmer Setting Gauge, Trimmer Sharpening Device, Flexible Lighting Fixture, Chip Buggy, (Chip Drawer furnished with Bench Model) Flat Grinding Wheel, Heavy-Duty V-Belt, Fully Enclosed Belt Guard, 1/3 HP Motor (any electrical specifications desired), Miter Vise, Swivel Batter and Line-Up Gauge, Oil Stone, Oil Can, Screw Driver, Brush and Complete Set of Wrenches.

G-22 Glider TrimOsaw

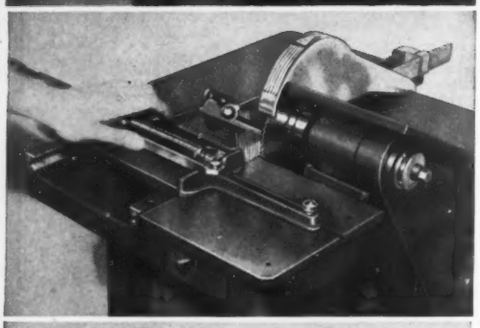
with Strip Material Cabinet

G-22F is Floor Model

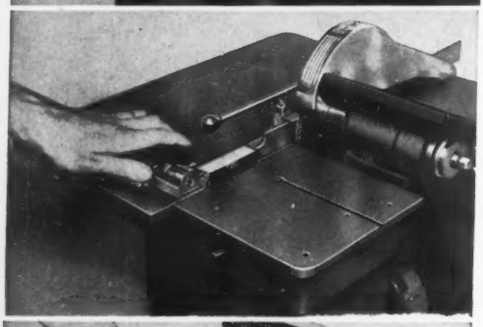
THE MODEL G-22 HAMMOND GLIDER TRIMOSAW is the ideal machine for the production plant requiring more than one composing room saw. It is equipped with a stationary saw arbor, and is built for sawing and trimming of slugs, rule and border. This Model is identical to the Model G-2 in size except it has a 62-Pica Gauge and Stationary Saw Arbor. Available as Floor Model G-22F.

STANDARD EQUIPMENT: 62-Pica Micrometer Gauge, Micrometer Gauge Finger, Positive Single-Action Workholder Clamp, Two 7" dia. DuraBlades, Two Saw Heads, 3 DuraSteel Trimmer Tools, Aluminum Saw Guard, Trimmer Setting Gauge, Trimmer Sharpening Device, Flexible Lighting Fixture, Chip Drawer, (Chip Buggy furnished with Floor Model) Flat Grinding Wheel, Grinding Wheel Guard, Heavy-Duty V-Belt, Fully Enclosed Belt Guard, 1/3 HP Motor (any electrical specifications desired), Miter Vise, Swivel Batter and Line-up Gauge, Oil Stone, Oil Can, Screw Driver, Brush and Complete Set of Wrenches.

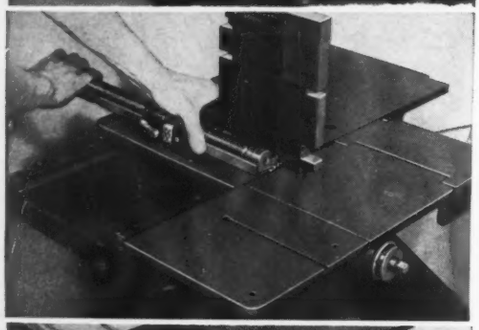
Sawing and Trimming Slugs on the Ball-Bearing Table.



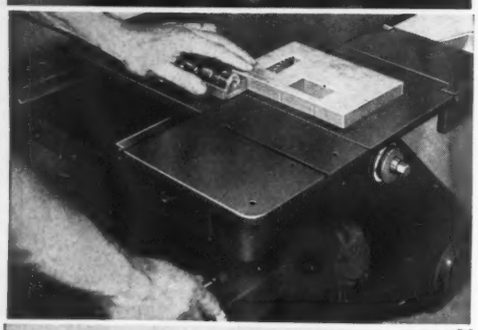
Mitering Sixteen 6-point Rule (or equivalent) in One Operation.



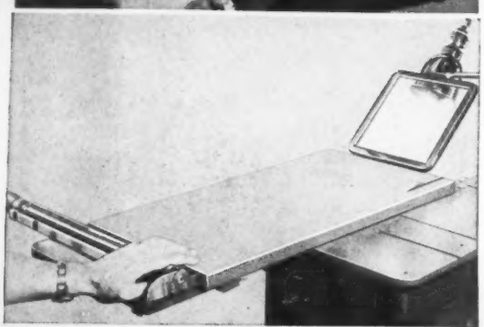
Sawing Down the Quadded Ends of Slugs.



Outside Mortising — Both Width and Depth to Point Measure.

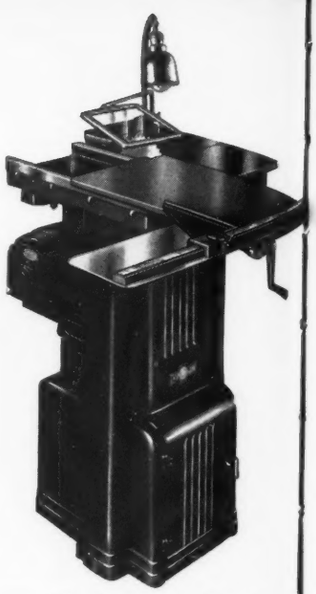


Inside Mortising — Square and Accurate to Point Measure.



Sawing Large, Type-High Stereo without Effort on Gliding Table.

These and many more operations done on the Glider with effortless ease and micrometer accuracy.



The Model G-20 Glider is the finest ever made for sawing type-high stereos. The ease and smoothness is breath-taking. It is equipped with 135-Pica Plain or Micrometer Gauge, Gauge Finger, See-Thru Guard, Lighting Fixture, 1 HP Motor, Double V-Belt Drive, Fully Enclosed Belt Guard, Raising and Lowering Ball-Bearing Saw Arbor, Two 7" dia. Special Stereotype Blades with Heads, Three Trimmer Tools and Flat Grinding Wheel. The G-20 is made for better stereotyping department production with easier operation.

For ads set at angles. Without guesswork — saw base material and border to exact angle and correct length. Without danger—clamp everything from the smallest to the largest pieces in the powerful overhead eccentric clamp.

Hammond Machinery Builders INCORPORATED

KALAMAZOO, MICHIGAN, U.S.A.

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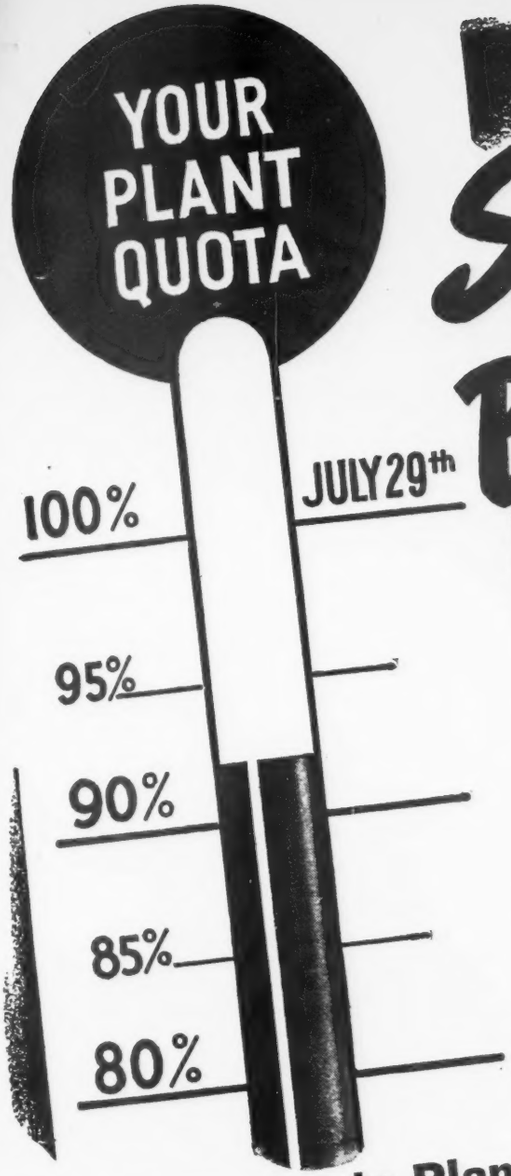


Stay at Your Battle Stations!

MANAGEMENT • LABOR

—the 5th War Loan Drive is still on.

July 29th is the last pay day in the Drive.

The U. S. Treasury has set the overall goal at $16,000,000,000 —$6,000,000,000 from individuals alone. This is the biggest sum ever asked of the American people—*and it must be raised!*

Keep fighting. The 5th War Loan is a crucial home front battle of tremendous importance to the total war effort.

Tighten up your 5th War Loan Drive organization. Step up your solicitation tempo. Drive! Drive!! Drive!!! Hit your Plant Quota's 100% mark with a bang that'll proclaim to all the world that the U. S. Home Front is solidly in back of the Fighting Front.

Need help? Need ideas? Call on the Chairman of your War Finance Committee. He's standing by.

Here's the Quota Plan:

1. Plant quotas are to be established on the basis of an *average* $100 *cash* (not maturity value) purchase per employee.
2. Regular Payroll Savings deductions made during the drive accounting period will be credited toward the plant quota.
3. Employees are expected to contribute toward raising the cash quota by buying extra 5th War Loan Bonds: 1—Outright by cash. 2—By extra installment deductions. 3—By extra installment deductions plus cash.

Example: **JOHN DOE MFG. CO.**—1,000 Employees

1,000 Employees x $100 . . $100,000 Cash Quota

Regular payroll deductions during the eight weekly payroll accounting periods of June and July. 30,000

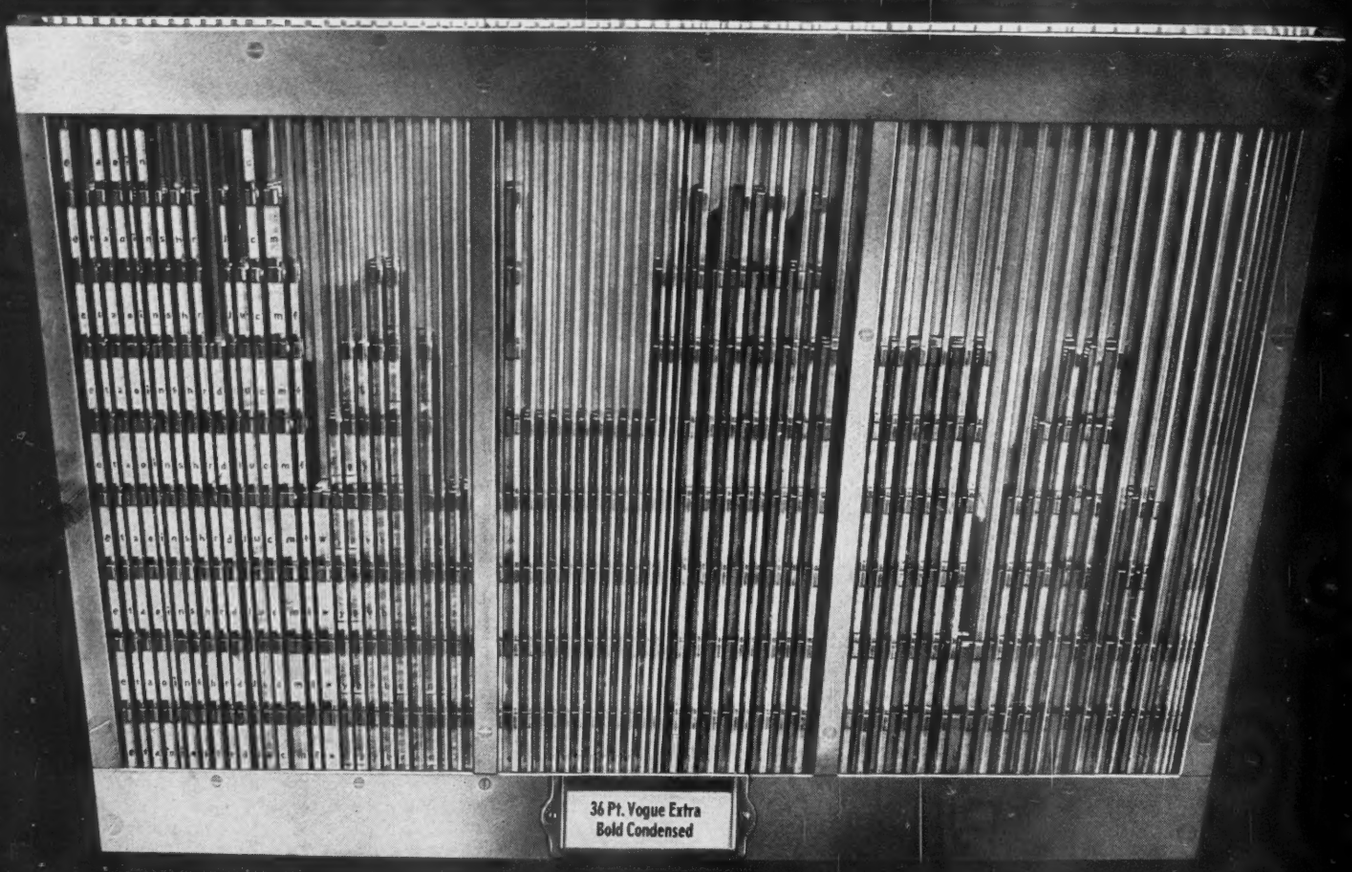
$70,000 (to be raised by sales of extra Bonds).

BACK THE ATTACK—SELL MORE THAN BEFORE

The Treasury Department acknowledges with appreciation the publication of this message by

PRINTING EQUIPMENT ENGINEER

★ ★ *This is an official U. S. Treasury advertisement—prepared under the auspices of Treasury Department and War Advertising Council.* ★ ★

Intertype announces a TRANSPARENT Magazine

For the first time you can see what is inside of a magazine and get a quick check on the supply of matrices in the magazine at all times. You can even see the reference marks on them. Made of aluminum and the amazingly light, tough Plexiglas developed for use on America's bombers and fighters, it is the lightest magazine ever built by Intertype. This "Featherweight" Magazine, which combines see-through-ability with durability, is one indication of important developments to come, postwar, from... INTERTYPE, Brooklyn 2, New York.